



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**



# SDR

Service Difficulty Reporting

October 12, 1997 - October 18, 1997

# Summary

GENERAL AVIATION, ZAC-327

***You can improve Air Safety by reporting the problem when you see it!***

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## SECTION

- I Significant Occurrence Report
- II Domestic Service Difficulty Report
- III International Service Difficulty Report
- IV SDR Totals by District Office
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ISSUE 97-42



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# **SDR SUMMARY**

General Aviation, ZAC-327



This summary includes domestic (United States) Service Difficulty Reports (SDRs) entered into the data base for aircraft weighing 12,500 lbs. and below. It also includes reports on aeronautical products (engines, propellers, and components), and all helicopters. A separate section for International SDRs for aircraft weighing 12,500 lbs. and under has also been included. Under a data exchange agreement, International SDRs are submitted to the FAA by the Civil Aviation Authority of other countries (currently, Canada - CAN, and Australia - AUS). All reports are sorted by aircraft make, model group (basic model), and Joint Aircraft System/Component (JASC) code. Within each aircraft model group, the specific model shown may vary, but similar types of reports will be grouped together and listed in ascending order by their JASC code. Each field contains all information submitted to the FAA. Some fields are not included in order to make the summary easier to read. Additional information may be obtained by referring to the "operator control number." Send your request to the Aviation Data Systems Branch, AFS-620 at the address or phone below.

**"The Service Difficulty Reports in this publication are derived from unverified information submitted by the aviation community without FAA verification for accuracy. The number of SDRs submitted is not an indication of the mechanical reliability or fitness of an airline or individual operator, and the information should not be used as such."**

Comments are welcomed and may be directed to:

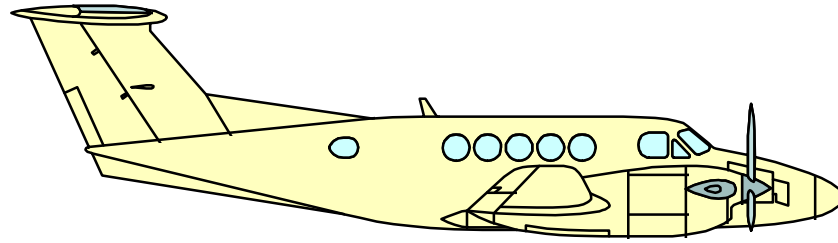
*Federal Aviation Administration  
Aviation Data Systems Branch, AFS-620  
P.O. Box 25082  
Oklahoma City, OK 73125-5029  
Phone: (405) 954-4171, Fax: (405) 954-4748*

Your continued participation is essential and is an integral part of ensuring aviation safety. Thank you for supporting the Service Difficulty Program! If you have any questions regarding this special notice you can contact John Jackson at (405) 954-6486, or Jim Gillespie at (405) 954-1141, or Blake McDonald at (405) 954-0307 in the Aviation Systems Branch (AFS-620). Their E-mail addresses are:

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**blake\_mcdonald@mmacmail.jccbi.gov**



# **SIGNIFICANT OCCURRENCE REPORT**





U.S. Department  
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**Federal Aviation  
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## **THE SIGNIFICANT OCCURRENCE REPORT**

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The Significant Occurrence Report is a compilation all of the star bordered reports that appear in the General Aviation Service Difficulty Report (SDR) Summary, ZAC-327. The Significant Occurrence Report is used to highlight industry problem areas to field inspectors and the aviation public.

Limited analysis is performed by the Aviation Data Systems Branch, AFS-620 during the preparation of the "Significant Occurrence Report", which is generated each week and is included in the front of the Air Carrier SDR Summary. Significant Reports are hand selected by AFS-620's inspectors based on the individual merit of each report. The criteria for selection includes, but is not limited to, items that indicate high failure rates; items related to accidents or incidents; or design or maintenance failures which may affect the safe operation of the aircraft.

In some cases, this limited analysis of SDR data leads to the preparation of information bulletins which are routed to the appropriate product certification office for further investigation of the problem. The end result may be the issuance of an airworthiness directive (AD) by the Aircraft Certification Service (AIR) if warranted.

The Significant Occurrence Report (section I) of the weekly SDR Summary is not intended to be a summary of all significant events and should not be used as such. We recommend that you review further the applicable sections of the SDR summary that may be of interest.

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7261 EOPA	3194P 45788	BELL 206L1	ALISN 250C28			OIL SUMP	COKED NR 6-7 BEARINGS	9130 1101	8/31/97 EOPA9704
DURING CRUISE FLIGHT, TORQUE BEGAN FLUCTUATING FROM ZERO TO 70 PERCENT. NO YAW OR OTHER ADVERSE CONDITIONS. WITHIN 30 SECONDS, ENGINE OIL PRESSURE DROPPED FROM 115 PSI TO 30 PSI. WHILE LANDING, BOTH READINGS DROPPED TO ZERO. DURING THIS TIME PERIOD, OIL TEMP AND TOT SHOWED NORMAL. ON LANDING, NOTED LARGE VOLUME OF WHITE SMOKE COMING FROM ENGINE EXHAUST. RECORDS INSPECTION SHOWED LAST BEARINGS FLOW CHECK WAS 170 CC'S, WELL ABOVE MINIMUM OF 90 CC IN MM.									
7310	230H 7134	BOLKMS BK117A4	LYC LTS101650B1			FUEL MANIFOLD 430137601	LEAK NR 1 ENGINE		9/25/97 97ZZZX4336
PIN HOLE LEAK IN TUBING BETWEEN NOZZLES. HIGH PRESSURE FUEL SPRAYING INTO ENGINE COMPARTMENT. SUBMITTER STATED THE TUBING BETWEEN NOZZLES SHOULD BE REPLACED AT OVERHAUL. ALLIED SIGNAL SHOULD FIELD FLEX HOSE MANIFOLD ASAP.									
6111	6285A 33085	CESSNA 182		HARTZL HC82V*		BUSHING	BROKEN BLADE PITCH		7/15/97 97ZZZX4388
PILOT REPORTED VIBRATION AND POWER LOSS. INVESTIGATION FOUND PITCH CHANGE PHENOLIC BUSHING ON ONE BLADE BROKEN ALLOWING BLADE TO MOVE TO LOWER PITCH THAN OTHER BLADE.									
3222	9129M U20601529	CESSNA U206E				YOKE 12436231	FAILED NLG	3000	9/26/97 97ZZZX4335
CESSNA HEAVY DUTY NOSE FORK SHEARED NEXT TO 4 BOLTS THAT SECURE IT TO THE NOSE STRUT. PN 1243620-1 NOSE GEAR HUB WAS NOT BROKEN AND DID NOT FAIL NOR DID THE 4 BOLTS. THE YOKE SHOWED NO SIGNS OF CORROSION OR CRACKS PREVIOUS TO ACCIDENT.									
5210 COZA	116K 5500149	CESSNA 550			551123053	HINGE PIN 551123017	NICKED PASSENGER DOOR	5720	9/23/97 97ZZZX4367
CREW REPORTED MAIN ENTRANCE DOOR HINGE WAS LOOSE. ON INSPECTION, FOUND THE UPPER HINGE PIN RETAINING RING HAD COME OFF AND THE HINGE PIN HAD DROPPED DOWN AND OUT OF THE HINGE ALLOWING EXCESSIVE PLAY IN THE UPPER HINGE. SUBMITTER STATED THIS AREA AND ASSEMBLY IS COVERED WITH SEALANT PER CESSNA MM AND INSPECTING FOR SECURITY IS IMPOSSIBLE. (X)									
7240 ISYA	84EA 5500484	CESSNA 550	PWA JT15D4		31003061	GROMMET ASSY 310501601	BROKEN COMB LINER	6342 2843	9/19/97 97ZZZX4345
RIGHT IGNITER WAS EXTREMELY DIFFICULT TO REMOVE. WHEN REMOVED PARTS WERE HEARD TO FALL INSIDE COMBUSTION CHAMBER. BORESCOPE INSPECTION REVEALED PORTIONS OF BOTH LEFT AND RIGHT GROMMET ASSEMBLIES LYING IN COMBUSTION CHAMBER. ENGINE HAS BEEN DISASSEMBLED TO HSI LEVEL AND REPAIRS ARE PENDING.									
6140		DHAV DHC6300	PWA PT6A27	HARTZL HCB3TN3		SWITCH KX5116	BROKEN RT BETA		7/7/97 CA970722020
(CAN) AFTER TAKEOFF ENGINE LOST POWER, AND A LARGE THROTTLE STAGGER WAS NOTICED, ALONG WITH A SIGNIFICANT DIFFERENCE IN FUEL FLOW. PILOT SHUT OFF AUTOFATHER SYSTEM AND NOTICED THAT THE BLUE BETA SYSTEM LIGHT WAS ON WITH A LARGE INCREASE IN ENGINE TORQUE AND LOWER PROP SPEED. INSPECTION FOUND THAT THE BETA MICRO SWITCH HAD FAILED CLOSED.									

SIGNIFICANT OCCURRENCE REPORT

10/12/97 TO 10/18/97 ISSUE 97-42 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6220	8047L	HUGHES				RING	MISINSTALLED		9/19/97
	470699	TH55A				269A1329	DROOP STOP		97ZZZX4341
DURING AN ANNUAL INSPECTION, DISCOVERED THE DROOP STOP RING WAS PREVIOUSLY INSTALLED INVERTED. THE MAIN ROTOR HEAD WAS ASSEMBLED THREE YEARS AND 60 HOURS PRIOR TO THIS INSPECTION.									
5510		LUSCOM				STABILIZER	CORRODED	3400	9/1/97
		8A					HORIZONTAL STAB		97ZZZX4328
AIRCRAFT GROUND LOOPED AND DAMAGED HORIZONTAL TIP. 1991 STORED INSIDE. REMOVED TIP AND SKINS FOR REPAIR NOTING EXCESSIVE INTERNAL CORROSION (AIRCRAFT PARKED OVER GRASS). NO INSPECTION HOLES TO ALLOW FOR INSPECTION. APPARENTLY, NO INSPECTIONS CONDUCTED AT ANNUAL INSPECTION. NOTED SIMILAR LACK OF ACCESS TO WINGS FOR INSPECTIONS.									
3240 CF4R	2355H	PIPER			SCOTT	MASTER CYLINDER	MISSERVICED		9/24/97
	187909175	PA18150				451209	BRAKE		97ZZZX4334
BRAKE MASTER CYLINDERS SERVICED BY AN OUTSIDE SHOP DUE TO 'LOW FLUID LEVEL'. MECH TOLD PILOT THE BRAKES WERE 'PUMPED UP HARD'. PILOT USED CABIN HEAT DURING NEXT FLIGHT. UPON LANDING, BRAKES WERE 'LOCKED UP'. ACFT GROUND LOOPED DURING LANDING DAMAGING LT WING. AFTER ACFT SET FOR ABOUT AN HOUR, THE BRAKES WERE 'FREE', AND ABLE TO ROLL THE ACFT. SUBMITTER SUSPECTS THE MECHANIC DID NOT USE THE PROPER SERVICING PROCEDURE OVERSERVICING MASTER CYLINDER. UPON APPLICATION OF CABIN HEAT, FLUID EXPANDED, LOCKING BRAKES.									
3234	54C	SKRSKY				CONTROL VALVE	MISWIRED		9/15/97
	760348	S76B				0911077004	LANDING GEAR		97ZZZX4351
THE LANDING GEAR CONTROL VALVE REMOVED FOR OCCASIONAL POPPING OF THE 'MANUAL RESET' BUTTON WHICH KEPT THE GEAR FROM BEING RETRACTED. AN O/H VALVE, ARKWIN IND, INC., PN 0911077-004, SIKORSKY PN 76650-02802-0911077-004, SIKORSKY PN 76650-02802-104, SN 0557A WAS INSTALLED IN HELICOPTER. WHEN ATTEMPTING TO OPERATE THE GEAR, DISCOVERED WITH THE GEAR HANDLE IN THE DOWN POSITION, THE GEAR WOULD RETRACT, AND EXTEND WHEN IN THE UP POSITION. AFTER FURTHER INVESIGATION, FOUND THE UP AND DOWN SOLENOIDS ON THE VALVE WERE WIRED BACKWARDS. ANOTHER VALVE WAS INSTALLED AND THE GEAR OPERATED NORMALLY.									

**FEDERAL AVIATION ADMINISTRATION**  
**SIGNIFICANT OCCURRENCE REPORT INDEX**

Showing Specific Part Numbers and Aircraft Model by Year  
 FOR THE PERIOD OF: OCTOBER 12, 1997 TO OCTOBER 18, 1997

PART NAME		YEAR						
PART NUMBER	ACFT MODEL	Total	90	93	94	95	96	97
CONTROL VALVE								
0911077004	S76B	1	-	-	-	-	-	1
<b>TOTAL</b> -----		<b>1</b>						<b>1</b>
YOKE								
12436231	U206E	1	-	-	-	-	-	1
<b>TOTAL</b> -----		<b>1</b>						<b>1</b>
RING								
269A1329	269C	2	1	-	-	-	-	1
	TH55A	1	-	-	-	-	-	1
<b>TOTAL</b> -----		<b>3</b>	<b>1</b>					<b>2</b>
GROMMET ASSY								
310501601	550	1	-	-	-	-	-	1
<b>TOTAL</b> -----		<b>1</b>						<b>1</b>
FUEL MANIFOLD								
430137601	222U	1	-	-	-	-	-	1
	BK117A4	1	-	-	-	-	-	1
	BK117B1	1	-	1	-	-	-	-
	BK117B2	5	-	-	-	1	3	1
<b>TOTAL</b> -----		<b>8</b>		<b>1</b>		<b>1</b>	<b>3</b>	<b>3</b>
MASTER CYLINDER								
451209	PA18150	1	-	-	-	-	-	1
<b>TOTAL</b> -----		<b>1</b>						<b>1</b>
HINGE PIN								
551123017	550	1	-	-	-	-	-	1

Run Date 23-Oct-97

FEDERAL AVIATION ADMINISTRATION  
**SIGNIFICANT OCCURRENCE REPORT INDEX**

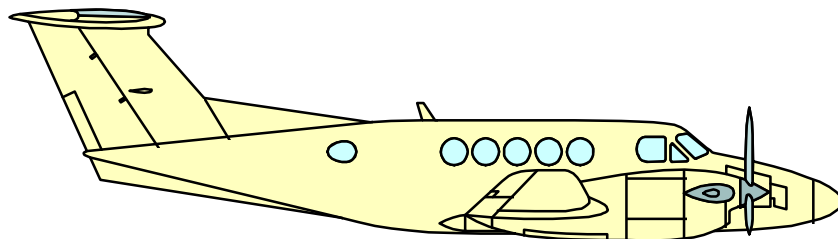
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Showing Specific Part Numbers and Aircraft Model by Year  
FOR THE PERIOD OF: OCTOBER 12, 1997 TO OCTOBER 18, 1997

PART NAME		YEAR						
PART NUMBER	ACFT MODEL	Total	90	93	94	95	96	97
TOTAL -----		1						1
<hr/>								
SWITCH								
KX5116	DHC6300	3	-	1	1	-	-	1
TOTAL -----		3		1	1			1
<hr/>								
END OF REPORT								



# **DOMESTIC SERVICE DIFFICULTY REPORT**



DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT

10/12/97 TO 10/18/97 ISSUE 97-42 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
2140	3197W TH427	BEECH 58			D83A28	COMBUSTION TUBE 45C40	CRACKED HEATER	3114	10/2/97 97ZZZX4385
PRESSURE CHECKED HEATER FOR COMBUSTION TUBE LEAK CHECK. FAILED CHECK AND HEATER WAS DISASSEMBLED. LOCATED SEVERAL CRACKS AT HEATER WELDS. INSTALLED NEW COMBUSTION TUBE PN 45C40, SN 970902. RE-CHECK FOR LEAKS OK.									
3710	46MA LD413	BEECH 65B80				PUMP 442CW	FAILED LT ENG VAC	1145	9/5/97 97ZZZX4386
VACUUM PUMP FAILED UNDER NORMAL OPERATING CONDITIONS. SUBMITTER STATED THIS PUMP HAD AN EXCEPTIONALLY LONG SERVICE LIFE.									
3222	9129M U20601529	CESSNA U206E				YOKE 12436231	FAILED NLG	3000	9/26/97 97ZZZX4335
*****	CESSNA HEAVY DUTY NOSE FORK SHEARED NEXT TO 4 BOLTS THAT SECURE IT TO THE NOSE STRUT. PN 1243620-1 NOSE GEAR HUB WAS NOT BROKEN AND DID NOT FAIL NOR DID THE 4 BOLTS. THE YOKE SHOWED NO SIGNS OF CORROSION OR CRACKS PREVIOUS TO ACCIDENT.								
3231	67886 402C0435	CESSNA 402C				ROD END ARB4EDUS	BROKE RT GEAR DOOR		9/15/97 97ZZZX4331
RIGHT LANDING GEAR DOOR CONTROL ROD BROKE AT ROD END, DOOR WOULD HANG DOWN WITH GEAR UP. INSTALLED NEW CONTROL ROD AND RIGGED. NO FURTHER TROUBLE.									
7713 P77A	401SX 402C0447	CESSNA 402C				ELBOW MS208222	NO THREADS RT INDUCTION		7/4/97 P77A9700183
PILOT REPORTED DURING FLIGHT, RT MAP STARTED DROPPING. PILOT GOT WORRIED, SHUT DOWN RT ENGINE AND FEATHERED PROPELLER. INVESTIGATION FOUND ELBOW ON INDUCTION TUBE FOR MAP GAUGE BLEW OUT. FIRST 5 THREADS OF ELBOW MISSING, REPLACED ELBOW. GROUND RUNS. ALL OPS CHECK GOOD. (X)									
8120 QTVA	7947Q 402B0397	CESSNA 402B	CONT TSIO520FB			VALVE	FAILED LT TURBO	1580	8/25/97 97ZZZX4329
LEFT ENGINE WENT TO NORMALLY ASPIRATED, DUE TO LT TURBO VALVE FAILURE.									
5210 COZA	116K 5500149	CESSNA 550			551123053	HINGE PIN 551123017	NICKED PASSENGER DOOR	5720	9/23/97 97ZZZX4367
*****	CREW REPORTED MAIN ENTRANCE DOOR HINGE WAS LOOSE. ON INSPECTION, FOUND THE UPPER HINGE PIN RETAINING RING HAD COME OFF AND THE HINGE PIN HAD DROPPED DOWN AND OUT OF THE HINGE ALLOWING EXCESSIVE PLAY IN THE UPPER HINGE. SUBMITTER STATED THIS AREA AND ASSEMBLY IS COVERED WITH SEALANT PER CESSNA MM AND INSPECTING FOR SECURITY IS IMPOSSIBLE. (X)								
5510		LUSCOM 8A				STABILIZER	CORRODED HORIZONTAL STAB	3400	9/1/97 97ZZZX4328
*****	AIRCRAFT GROUND LOOPED AND DAMAGED HORIZONTAL TIP. 1991 STORED INSIDE. REMOVED TIP AND SKINS FOR REPAIR NOTING EXCESSIVE INTERNAL CORROSION (AIRCRAFT PARKED OVER GRASS). NO INSPECTION HOLES TO ALLOW FOR INSPECTION. APPARENTLY, NO INSPECTIONS CONDUCTED AT ANNUAL INSPECTION. NOTED SIMILAR LACK OF ACCESS TO WINGS FOR INSPECTIONS.								

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3240 CF4R	2355H 187909175	PIPER PA18150			SCOTT	MASTER CYLINDER 451209	MISSERVICED BRAKE		9/24/97 97ZZZX4334
*****	BRAKE MASTER CYLINDERS SERVICED BY AN OUTSIDE SHOP DUE TO 'LOW FLUID LEVEL'. MECH TOLD PILOT THE BRAKES WERE 'PUMPED UP HARD'. PILOT USED CABIN HEAT DURING NEXT FLIGHT. UPON LANDING, BRAKES WERE 'LOCKED UP'. ACFT GROUND LOOPED DURING LANDING DAMAGING LT WING. AFTER ACFT SET FOR ABOUT AN HOUR, THE BRAKES WERE 'FREE', AND ABLE TO ROLL THE ACFT. SUBMITTER SUSPECTS THE MECHANIC DID NOT USE THE PROPER SERVICING PROCEDURE OVERSERVICING MASTER CYLINDER. UPON APPLICATION OF CABIN HEAT, FLUID EXPANDED, LOCKING BRAKES.								
3230	54757 277554068	PIPER PA23250			1624004	BOLT AN17727	FAILED DRAG LEG LINK	8979	9/26/97 97ZZZX4332
	WHEN APPLYING GREASE TO CENTER DRAG LEG ATTACH BOLT, THE MECHANIC NOTICED THE HEAD OF BOLT SLID OUT .25 INCH, AND BECAME WEDGED IN FITTING PN 19155-03 LANDING GEAR LOCK SPRING UPPER WHICH PREVENTED BROKEN PORTION OF BOLT FROM FALLING OUT.								
2430 LF1R	2104U 287990327	PIPER PA28181				SWITCH 587829	FAULTY ALTERNATOR	4000	10/2/97 97ZZZX4380
	OWNER COMPLAINED OF FLUCTUATING AMMETER AND LIGHTS. ALTERNATOR, REGULATOR, AND OVERVOLTAGE REGULATOR HAD BEEN PREVIOUSLY REPLACED. AFTER BYPASSING ALTERNATOR SWITCH, FLUCTUATIONS WENT AWAY. PROBLEM CAUSED BY AGE OF SWITCH. SUBMITTER STATED HAVE SEEN THIS ON OTHER AIRCRAFT. ONE WAY TO PREVENT PROBLEM COULD BE TO REPLACE UNIT AFTER 2,000 HOURS.								
5521	282JN 317552005	PIPER PA31350				SPAR 40075	CRACKED ELEV/SPAR & RIB	6557	9/24/97 97ZZZX4382
	UPON COMPLYING WITH PIPER SB 998A INSPECTION OF ELEVATOR SPAR, FOUND THE SPAR CRACKED INBOARD OF THE OUTBOARD HINGE. ONLY ABOUT .25 INCH OF THE CRACK WAS VISIBLE. THE END RIB HAD A CRACK WHERE THE SKIN STIFFENER CHANNEL IS RIVETED TO IT AND ONE SKIN STIFFENER CHANNEL END WAS BROKEN OFF WHERE IT ATTACHED TO THE END RIB. ALSO, THE RIB THAT THE BALANCE WEIGHTS ATTACHES. ALL THREE ANCHOR ATTACHES HAD CRACKS RUNNING ACROSS THE NUTPLATES RIGHT OUTBOARD OF RIVET ATTACH HOLES.								
8011	4108D 318352018	PIPER PA31350				STARTER MHB4104	FAILED RT ENGINE	1788	9/12/97 97ZZZX4384
	PILOT REPORTED SPARKS FROM FORWARD RT COWLING DURING STARTING OF ENGINE. INSPECTED RT ENGINE STARTER AND FOUND FIELD COIL HOUSING LOOSE AND BINDING ON ARMATURE. REMOVED AND REPLACED STARTER WITH OVERHAULED UNIT.								
2150	28893 327940123	PIPER PA32300				IDLER PULLEY	BEARING FAILED AIR COND		9/21/97 97ZZZX4333
	AFTER LANDING, THE IDLER PULLEY ASSY DETACHED FROM BEARING ASSY. PULLEY COULD HAVE HUNG UP IN FLY-WHEEL RING GEAR. NEW ENGINE INSTALLED JUST PRIOR TO FAILURE. RECOMMEND NEW BEARING BE INSTALLED AT ENGINE OVERHAUL.								
3234 ESMR	825WS 468408059	PIPER PA46310P				VALVE 592610	O-RING BROKEN MLG SELECTOR		10/2/97 97ZZZX4390
	LANDING GEAR SELECTOR VALVE INTERNAL O-RINGS FAILED CAUSING HYDRAULIC PUMP TO RUN CONTINUOUSLY.								
3234 ESMR	825WS 468408059	PIPER PA46310P				VALVE 592610	O-RING FAILED MLG SELECTOR		10/2/97 97ZZZX4389
	RECEIVED NEW VALVE FROM PIPER, BUT VALVE WAS DATED '4Q86'. INSTALLED VALVE AND CYCLED GEAR. THE OUTDATED O-RINGS IN VALVE 'BLEW OUT' ON THE FIRST RUN.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MDL	PART NUMBER	PART COND PART LOC.	TT TSO	OPER CONT NO
2430 HEEA		BELL 206L3				POWER SUPPLY A490ATSDF1428	DEFECTIVE DC SYS		10/2/97 HEEA0011167
POWER SUPPLY WAS RECEIVED WITH RATTLE INSIDE.									
2550	6197N 52014	BELL 206L4			BREEZE	HOIST HL16600170	MALFUNCTION RESCUE		9/25/97 97ZZZX4340
DURING A TRAINING PERIOD, THE CABLE CUTTER ENGAGED THE CABLE CAUSING A PARTIAL FAILURE OF THE CABLE WHILE A CREW MEMBER WAS BEING LOWERED. THE HOIST HAS BEEN RETURNED TO THE MANUFACTURER FOR ANALYSIS. A FOLLOW-UP REPORT WILL FOLLOW.									
2562 HEEA	2758N 45267	BELL 206L1			NARCO	ELT ELT910	MALFUNCTION COCKPIT		10/2/97 HEEA0011190
ELT STAYS ON AND WILL NOT SHUT OFF.									
3414 HEEA	3181Y 3772	BELL 206B3				INDICATOR 8000	READS LOW COCKPIT AIR SPD		10/2/97 HEEA0011160
AIR SPEED INDICATES LOW OUT OF TOLERANCE BELOW 80 KNOTS.									
3424 HEEA	513EH 45421	BELL 206L1				INDICATOR 9551A	INOPERATIVE COCKPIT T&B		10/2/97 HEEA0011144
T & B INDICATOR INOPERATIVE. TIME SINCE REPAIR 46:35.									
3452 HEEA	2163Y 3496	BELL 206B3				TRANSPONDER 066106202	MALFUNCTION COCKPIT ATC		10/6/97 HEEA0011204
REPORTS 3136 WHEN SELECTED TO 0152. VERIFIED EXTRA PULSES AS CODING SWITCHES WERE CHANGED. CLEANED CODING SWITCHES. REPLACED BROKEN FACEPLATE ASSEMBLY AND INSTALLED Q415 HEAT SINK. INSPECTED AND BENCH CHECK GOOD.									
3452 HEEA	2270G 3610	BELL 206B3			KT76	TRANSPONDER 066106200	MALFUNCTION COCKPIT ATC		10/6/97 HEEA0011209
TRANSPONDER IDENT LIGHT WEAK AND OFF FREQUENCY. VERIFIED WEAK REPLY LIGHT PHOTODETECTOR V301. UNIT WAS ON FREQUENCY. REPLACED V301 PHOTODETECTOR. CLEANED CODING SWITCHES. BENCH CHECK GOOD.									
3452 HEEA	104PH 3622	BELL 206B3			KT76	TRANSPONDER 066106200	MALFUNCTION COCKPIT ATC		10/6/97 HEEA0011203
TRANSMITS DIFFERENT CODE NUMBERS THAN SELECTED CODE. PERFORMED PRELIMINARY INSPECTION, CLEANED WAFER SWITCHES. REPAIRED. REPLACED C401 AND C402 CAPACITORS. REPAIRED. BENCH CHECK GOOD.									

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3452 HEEA	2278V 3632	BELL 206B3				TRANSPONDER C2080A	LOW POWER PULSE OSC		9/30/97 HEEA0011121
TRANSPONDER LOW POWER OUT.									
3452 HEEA	406EH 45183	BELL 206L1			KT76	TRANSPONDER 066106200	FAULTY COCKPIT ATC		10/6/97 HEEA0011205
NUMBERS ON TRANSPONDER DOES NOT MATCH WHAT TOWER SAYS. FOUND CODING SWITCHES DIRTY, POSSIBLE CAUSING INCORRECT CODING. CLEANED SWITCHES TO REPAIR. REPLACED WEAK V101 CAVITY OSCILLATOR AND DETERIORATED R477 RESISTOR. ADJUSTED AS NEEDED. BENCH CHECK GOOD.									
3452 HEEA	1077A 45382	BELL 206L1			KT76	TRANSPONDER 066106200	KNOB BROKEN COCKPIT ATC		10/7/97 HEEA0011213
TRANSPONDER KNOB BROKEN. PERFORMED PRELIMINARY INSPECTION, REPLACED KNOB. BEGAN BENCH CHECK AND FOUND REPLY LIGHT FLASHING AND PULSE WIDTH OUT OF SPECS.									
3452 HEEA	31821 51076	BELL 206L3			KT76	TRANSPONDER, 066106200	WONT TEST COCKPIT ATC		10/6/97 HEEA0011206
WONT TEST. PERFORMED PRELINARY INSPECTION, FOUND V101 BAD, REPLACED V101 CAVITY TUBE. REPAIRED. ALSO REPLACED V301 PHOTOCCELL DUE TO BEING INOPERATIVE. REPAIRED. BENCH CHECK GOOD.									
5320 HEEA	5007Y 45192	BELL 206L1				CHANNEL 206031314125S	MIS MFG FUSELAGE		10/1/97 HEEA0011130
CENTER OF CHANNEL IS BOWED TOO MUCH KICKING THE AFT END UPWARD CAUSING NO EDGE DISTANCE FOR THE RIVETS IN THE CENTER AREA APPROXIMATELY 10" FROM AFT EDGE TO APPROXIMATELY 29" FROM THE AFT EDGE. RIVETS IN BETWEEN THESE TWO AREAS HAVE NO EDGE DISTANCE.									
5320 HEEA	5007Y 45192	BELL 206L1				SUPPORT 206031124113S	MALFORMED FUSELAGE		10/1/97 HEEA0011129
SUPPORT MALFORMED IN MANUFACTURING PROCESS. TWISTED AND INCONSISTENT PARALLELS. UPPER RADIAL LEG BENT TOO MUCH AT CENTER SECTION.									
5320 HEEA	8594X 51531	BELL 206L3				SHELL ASSY 206033100291	CORRODED FUSELAGE		10/2/97 HEEA0011132
SHELL ASSY IS CORRODED. (SEPARATED BEYOND LIMITS AT THIS STATION.									
5530 HEEA	2275Q 3625	BELL 206B3				VERTICAL FIN 206020113127A	CORRODED TAILBOOM		10/2/97 HEEA0011188
VERTICAL FIN CORRODED AT TOP.									

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5530 HEEA	5005F 45176	BELL 206L1				FIN ASSY 206020113117	CRACKED V STAB		9/30/97 HEEA0011125
FIN ASSY CRACKED.									
5530 HEEA	3207Q 51540	BELL 206L3				FIN ASSY 206020113163	MIS DRILLED TAILBOOM		10/2/97 HEEA0011189
FIN ASSY MIS-DRILLED HOLES.									
5530 HEEA	6160Y 51609	BELL 206L3				FIN ASSY 206020113163	GROOVED V STAB		9/30/97 HEEA0011124
FIN ASSY GROOVED BEYOND LIMITS.									
6320 HEEA	8588X 51486	BELL 206L3				INDICATOR 206075678107	FAILED XMSN OIL TEMP		10/2/97 HEEA0011143
OIL LEAKING INTERNALLY - TEMP. NEEDLE STICKS.									
6320 HEEA	62127 52023	BELL 206L4			206040004115	SHAFT 357950111452	WORN M/R GR BOX		10/2/97 HEEA0011195
SHAFT SPLINES WORN MIC. READING .518. REPLACED WITH SERVICEABLE SHAFT.									
6330 HEEA	2761N 45277	BELL 206L1				LINK ASSY 206033554101	SEPARATED M/R XMSN		10/2/97 HEEA0011173
LINK ASSY SEPARATED DETERIORATED BEARINGS.									
6330 HEEA	1081T 45411	BELL 206L1				FLEXURE 206033516101	CRACKED M/R XMSN		10/2/97 HEEA0011191
FLEXURE CRACKED.									
6330 HEEA	5742N 45477	BELL 206L1				LINK ASSY 206033503001	BUSHING FAILED M/R XMSN		10/2/97 HEEA0011175
BUSHING ON UPPER END MOVED AGAINST SPINDLE.									
6330 HEEA	3905B 45598	BELL 206L1				LINK ASSY 206033554101	DEBONDED M/R XMSN		10/2/97 HEEA0011174
UPPER BEARING RUBBER COATING COMING OFF.									

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6330 HEEA	515KA 51048	BELL 206L3				STOP ASSY 206033518007	UNBONDED M/R XMSN		10/2/97 HEEA0011172
RUBBER UNBONDED (WORN AND DETERIORATED) .									
6330 HEEA	31801 51074	BELL 206L3				STOP ASSY 206033518007	UNBONDED M/R XMSN		10/2/97 HEEA0011171
RUBBER UNBONDED (WORN AND DETERIORATED)									
7261 EOPA	3194P 45788	BELL 206L1	ALLSN 250C28			OIL SUMP	COKED NR 6-7 BEARINGS	9130 1101	8/31/97 EOPA9704
*****	DURING CRUISE FLIGHT, TORQUE BEGAN FLUCTUATING FROM ZERO TO 70 PERCENT. NO YAW OR OTHER ADVERSE CONDITIONS. WITHIN 30 SECONDS, ENGINE OIL PRESSURE DROPPED FROM 115 PSI TO 30 PSI. WHILE LANDING, BOTH READINGS DROPPED TO ZERO. DURING THIS TIME PERIOD, OIL TEMP AND TOT SHOWED NORMAL. ON LANDING, NOTED LARGE VOLUME OF WHITE SMOKE COMING FROM ENGINE EXHAUST. RECORDS INSPECTION SHOWED LAST BEARINGS FLOW CHECK WAS 170 CC'S, WELL ABOVE MINIMUM OF 90 CC IN MM.								
7313 HEEA	50046 45173	BELL 206L1	ALLSN 250C28B		23033185	NOZZLE 23031866	MIS MFG NR 2 SEAL BORE		10/6/97 HEEA0011201
RECEIVING INSPECTION REVEALED: EXCESSIVE RUNOUT .020 ON NR2 NOZZLE SEAL BORE.									
7314 HEEA	2245Y 45751	BELL 206L1	ALLSN 250C28B			PUMP 3881005	SHAFT WORN FUEL PUMP	11881	10/2/97 HEEA0011198
FOUND DRIVE SHAFT AND GEAR SPLINE WEAR.									
7320 HEEA	6160Y 51609	BELL 206L3	ALLSN 250C30P			ACTUATOR 206062721109	FAILED ENG CONTROL		10/2/97 HEEA0011187
ACTUATOR WILL NOT MOTOR IN EITHER DIRECTION.									
7412 HEEA	6161A 51611	BELL 206L3	ALLSN 250C30P			EXCITER 49522	INTERMITTENT ENGINE		10/2/97 HEEA0011194
EXCITER INTERMITTENT SPARK.									
7712 HEEA	8591X 51495	BELL 206L3				TORQUEMETER 206075739103	STICKS COCKPIT		10/2/97 HEEA0011145
TORQUE METER NEEDLE STICKS THROUGHOUT SCALE.									

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - HELICOPTERS

10/12/97 TO 10/18/97 ISSUE 97-42 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7931 HEEA	2268G 3603	BELL 206B3				INDICATOR 206075187003	READS HIGH ENG OIL PRESS		10/2/97 HEEA0011154
INDICATOR READING 5 PSI HIGH.									
7931 HEEA	22751 3627	BELL 206B3				INDICATOR 206075677103	READS HIGH OIL PRESS		10/2/97 HEEA0011165
OIL PRESSURE INDICATING HIGH.									
2210 HEEA	102PH 30899	BELL 212				TARSYN 2593996333	SHORTED AUTO FLIGHT		10/2/97 HEEA0011152
TARSYN INTERNALLY SHORTED.									
2210 HEEA	102PH 30899	BELL 212				TARSYN 2593996333	SHORTED COCKPIT AUTO FLT		10/2/97 HEEA0011151
TARSYN INTERNALLY SHORTED.									
2844 HEEA	27805 31106	BELL 212				INDICATOR. 124044	STICKS FUEL PRESS		10/2/97 HEEA0011146
INDICATOR INTERMITTENTLY STICKS AT 30 PSI.									
5330 HEEA		BELL 212				PANEL 205032815037A	SEPARATED FUSELAGE		10/2/97 HEEA0011134
PANEL SEPARATED BEYOND LIMITS AT THIS STATION.									
7931 GJQR	98W 35100	BELL 212				INDICATOR 209070262101	READS HIGH ENG OIL	365	10/13/97 HAIGJQR0144
ENG OIL TEMP PRESS INDICATOR READS HIGH. REPLACED WITH NEW PART FROM BELL.									
2430 HEEA	8045T 28101	BELL 214ST				CONTROL UNIT 51576003	DEFECTIVE DC SYS		10/1/97 HEEA0011128
DC CONTROL UNIT DEFECTIVE. GENERATOR WOULD NOT COME ON LINE. TIME SINCE REPAIR 19:55.									
2435 HEEA	6957Y 28139	BELL 214ST				STARTER 214060056103	INOPERATIVE START/GEN	75	10/3/97 HEEA0011200
STARTER INOPERATIVE. KICKS OUT AFTER SIX MINUTES.									

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2436 HEEA	6957Y 28139	BELL 214ST				REGULATOR 214175153105	FAILED DC GENERATOR		10/2/97 HEEA0011141
VOLTAGE REGULATOR DEFECTIVE. GENERATOR WOULD NOT COME ON LINE.									
3213	745H 28197	BELL 214ST				CROSSTUBE 214052052101	FAILED SKID GEAR		8/23/97 97ZZZX4349
REAR CROSSTUBE FRACTURED DURING GROUND HANDLING OF AIRCRAFT (RAISED ON WHEELS). TOTAL WT. A/C, 13,535 POUNDS. ACCEPTABLE MOVEMENT LIMITATION, 14,500 POUNDS.									
3417 HEEA	6957Y 28139	BELL 214ST				AIR DATA COMP 214175421101	FAILED COCKPIT		10/2/97 HEEA0011162
GROSS WEIGHT DOES NOT DECREASE AS FUEL LOAD DECREASES.									
6240 HEEA	3897N 28106	BELL 214ST				INDICATOR 214175251107	DEFECTIVE ROTOR TACH		10/2/97 HEEA0011142
ROTOR TACH NEEDLE WILL NOT GO ABOVE 70%.									
6710 HEEA	5748M 28102	BELL 214ST				AMPLIFIER ASSY 214074303115	FAULTY CYCLIC		10/2/97 HEEA0011140
AMPLIFIER FAULTY. CYCLIC MOTORING WHEN ENGAGED.									
7320 HEEA	3897N 28106	BELL 214ST	GE CT72A			HMU 6038T62P24	MALFUNCTION ENGINE		10/2/97 HEEA0011184
HMU WON'T GO INTO ECU LOCK OUT.									
7321 HEEA	3897N 28106	BELL 214ST	GE CT72A			ECU 7046M95G03	MALFUNCTION ENGINE		10/2/97 HEEA0011181
ECU CAUSING ENGINE N2 TO GO RIGHT ALONG WITH TORQUE.									
7321 HEEA	3897N 28106	BELL 214ST	GE CT72A			ECU 7046M95G04	MALFUNCTION ENGINE		10/2/97 HEEA0011182
DOES NOT RESPOND TO TRIM OR RPM WHEEL. NO POWER CHECK READ OUT ON ADC.									
3452 HEEA	407MM 53060	BELL 407				TRANSPONDER 066010620000	MALFUNCTION COCKPIT ATC		9/30/97 HEEA0011114
TRANSPONDER DEFECTIVE. WITH 6033 CODE IN TRANSPONDER, ATC RECEIVES 6733.									

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3452 HEEA	402PH 53159	BELL 407			KT76	TRANSPONDER 066106200	INOPERATIVE COCKPIT ATC		10/7/97 HEEA0011212
INOPERATIVE. NO REPLY LIGHT. FOUND DS5 BULB BAD. REPLACED DS5 BULB AND ADJUSTED FREQUENCY TO SPECS. REPAIRED UNIT. BENCH CHECK GOOD.									
6220 HEEA	417PH 53038	BELL 407				SEAT 407010107101	CRACKED M/R	841	9/30/97 HEEA0011126
LOWER CONE SEAT CRACKED.									
6300 HEEA	57416 53070	BELL 407				CARBON SEAL 406340102101	LEAKING M/R DRIVE	668	10/2/97 HEEA0011180
PITTTED SEAL LEAKING.									
7933 HEEA	402PH 53159	BELL 407				INDICATOR 407375004101	FAILED ENG OIL TEMP	117	10/6/97 HEEA0011211
OIL TEMP SECTION FAILED - DROPPED TO ZERO IN FLIGHT.									
2160 HEEA	3893P 33012	BELL 412				MOTOR 212073927001	FAILED TEMP CONTROL		10/2/97 HEEA0011168
MOTOR WILL NOT WORK.									
2210 HEEA	21498 36003	BELL 412				YAW CONTROL 7001484	DEFECTIVE AFCS		10/2/97 HEEA0011157
YAW CHANNEL KICKS IN ALL MODES.									
2210 HEEA	7128R 36007	BELL 412				TARSYN 2593996333	DEFECTIVE AUTO FLIGHT		10/2/97 HEEA0011135
TARSYN DEFECTIVE. ADI ROLLS OVER AND AFCS KICKS IN PITCH.									
2312 HEEA	3893S 33022	BELL 412				TRANSCIEVER 7001840913	FAILED COCKPIT VHF		10/2/97 HEEA0011177
TRANSCIEVER PEGS ON HIGH SIDE. FAILED 5.1 ON SST.									
2430 HEEA	3893N 33010	BELL 412				CONTROL UNIT 51509002R	FAILED DC SYS		10/2/97 HEEA0011150
CONTROL UNIT KICKS GENERATOR OFF LINE.									

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2841 HEEA	HL924 33197	BELL 412				INDICATOR 214175257105	FAULTY FUEL QTY		10/2/97 HEEA0011158
FUEL QTY INDICATOR FAULTY. CANNOT CALIBRATE DIGITAL READ OUT TO ZERO.									
3210 HEEA	2149S 36002	BELL 412				CAP ASSY AFT 412030437103	DETERIORATED CROSSTUBE		10/2/97 HEEA0011136
DETERIORATED RUBBER DISC.									
3213 HEEA	5759N 33002	BELL 412				SKIDTUBE 412050015110	CORRODED RT SKID		10/2/97 HEEA0011138
SKID TUBE IS CORRODED. (BEYOND LIMITS .035)									
3213 HEEA	108X 33115	BELL 412				SKIDTUBE 412050015109	CORRODED LT SKID		9/30/97 HEEA0011122
SKID TUBE CORRODED BEYOND LIMITS .034. SENT TO AIRBORNE SUPPLY, INC. FOR INSPECTION AND REPAIR.									
3213 HEEA	108X 33115	BELL 412				SKIDTUBE 412050015110	CORRODED RT SKID		9/30/97 HEEA0011123
RT SKID TUBE CORRODED BEYOND LIMITS .040.									
3213 HEEA	22347 36005	BELL 412				SKIDTUBE 412050015109	CORRODED LT SKID		10/2/97 HEEA0011139
LT SKID TUBE IS CORRODED. (BEYOND LIMITS .033)									
3414 HEEA	HL923 33150	BELL 412				INDICATOR 412075009105	READS LOW COCKPIT AIRSPD		9/30/97 HEEA0011119
AIRSPEED INDICATES LOW OUT OF TOLERANCE BELOW 60 KNOTS.									
3421 HEEA	21498 36003	BELL 412				INDICATOR 4020936903	FAILED 3 AXIS GYRO		10/2/97 HEEA0011161
ATTITUDE GYRO WILL NOT REMAIN ERECT.									
3425 HEEA	3893P 33012	BELL 412				INDICATOR 1113025	DEFECTIVE COCKPIT HSI		10/2/97 HEEA0011133
NUMBERS ABOVE COURSE HARD TO SEE WHEN SETTING IN PILOTS SEAT DUE TO BLACK BAR LOW. NEW GAUGE WAS HIGHER UP.									

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3444 HEEA	HL923 33150	BELL 412				INDICATOR 7000839904	READS LOW RADAR ALTIMETER		9/30/97 HEEA0011120
INDICATION READS 30 DEGREES LOW; LOOSE PART INSIDE; DH LAMP COVER MISSING.									
3454 HEEA	6559Z 36019	BELL 412				CONTROL 071121627	DEFECTIVE COCKPIT NAV		10/7/97 HEEA0011214
NAV CONTROL LED READOUT TOO DIM FOR DAYLIGHT OPERATION. PERFORMED PRELIMINARY INSPECTION AND FOUND V101 PHOTOCCELL BAD. REPLACED PHOTOCCELL. BENCH CHECK GOOD.									
3457 HEEA	2148K 36001	BELL 412			GARMIN	GPS165 0110010600	ERRORS COCKPIT		10/2/97 HEEA0011176
GPS BEARING INTERMITTENTLY ERRONEOUS.									
5260 HEEA	21498 36003	BELL 412				ACTUATOR 212075418103	FAILED STEP		10/2/97 HEEA0011170
ACTUATOR INOPERATIVE WILL NOT MOTOR UP OR DOWN. SERIAL NUMBERS REMOVED ARE 1491, 1738, AND 640.									
5260 HEEA	22347 36005	BELL 412				ACTUATOR 212075418105	FAILED STEP		10/6/97 HEEA0011202
STEP ACTUATOR NOT FUNCTIONING.									
6240 HEEA	3911L 33023	BELL 412				INDICATOR 412075010111	ERRATIC TRIPLE TACH		10/2/97 HEEA0011185
ROTOR INDICATION ERRATIC.									
7322 HEEA	22347 36005	BELL 412	PWA PT6T3B			FUEL CONTROL 324473511	CONTAMINATED ENGINE	10912	10/2/97 HEEA0011199
8 TO 10% OSCILLATION AT 100% N2. FOUND FUEL CONTROL CONTAMINATED WITH TAN COLORED SAND LIKE MATERIAL. CLEANED ALL ENGINE AIR LINES AND REPLACED FUEL CONTROL.									
7714 HEEA	2014K 33020	BELL 412				INDICATOR 412075010109	ERROR TRIPLE TACH		9/30/97 HEEA0011118
3% SPLIT IN ENGINE RPMS.									

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7714 HEEA	3911L 33023	BELL 412				INDICATOR 412075010109	READS LOW TRIPLE TACH		10/2/97 HEEA0011186
TRIPLE TACH READS 2% LOWER THAN PILOT'S SIDE.									
6300 CHIR	2FOR 5	BOEING 1072			A02D301110	SHAFT A02D31473R	CRACK UPPER PIN HOLE	2619	9/23/97 CHI1906
DURING ROUTINE 100-HOUR EDDY CURRENT INSPECTION OF SHAFT PIN HOLES, A POSITIVE INDICATION WAS DETECTED. SHAFT WAS REMOVED FROM THE AIRCRAFT AND SENT TO THE SHOP FOR EVALUATION. MAGNETIC PARTICLE INSPECTION REVEALED A CRACK APPROXIMATELY 0.150 INCH LONG FROM ONE PIN HOLE. NO OTHER DEFECTS NOTED. PART IS BEING FORWARDED TO BOEING HELICOPTERS FOR FURTHER EVALUATION. (X)									
2621 CHIR	2FOR MJ005	BOEING 234		KIDDE		FIRE BOTTLE 898526	DISCHARGED APU		9/5/97 97ZZZX4342
AIRCRAFT WAS ON HELIPAD WHEN THE FIRE BOTTLE DISCHARGED. INVESTIGATION REVEALED THE THERMAL RELIEF VALVE HAD ACTIVATED AND BOTTLE PRESSURE WAS ZERO. THE SKIN OF THE ACFT IS VERY CLOSE TO THE BOTTLE AND IS PAINTED BLACK ON THE OUTSIDE AND IN A POSITION OF DIRECT SUNLIGHT IN THE A.M. THE OAT ON THE HELIPAD WAS 74 DEGREES FAHRENHEIT. THE FIRE BOTTLE COMPARTMENT INSIDE SKIN TEMP WAS 132 DEGREES FAHRENHEIT. THE INSIDE SKIN TEMP OF SKIN THAT HAS AN OUTSIDE PAINT OF WHITE NEAR SAME AREA WAS 107 DEGREES FAHRENHEIT. (A COMPANY CALIBRATED INSTRUMENT WAS USED.) MM, CHAPTER 26-20-00, PAGE 8, PARAGRAPH E, STIPULATES HIGH PRESSURE BLOW-OFF BETWEEN 208 DEGREES TO 220 DEREES FAHRENHEIT. (X)									
3452 HEEA	7170D S840	BOLKMS BO105S			KT76	TRANSPONDER 066106200	INOPERATIVE COCKPIT ATC		10/6/97 HEEA0011207
TRANSPONDER INOPERATIVE. PERFORMED PRELINARY INSPECTION. REPLACED RESISTOR R441, RESISTOR R447, TRANSISTOR Q415, DIODE CR404, DIODE CR407 AND RESISTOR R429. REPAIRED. ALSO REPLACED FACEPLATE ASSY AND PHOTOCCELL V301. TESTED, ADJUSTED POWER OUT, PULSE WIDTH AND FREQUENCY.BENCH CHECK GOOD.									
3452 HEEA	4302G S853	BOLKMS BO105S			KT76	TRANSPONDER 066106200	FAILED COCKPIT ATC		10/6/97 HEEA0011208
TRANSPONDER INTERROGATION LIGHT INOPERATIVE. PERFORMED PRELINARY INSPECTION. FOUND DS301 LAMP VERY DIM. REPLACED V301 PHOTOCCELL. REPAIRED. ADJUSTED UNIT TO SPECS. BENCH CHECK GOOD.									
3610 HEEA	4302G S853	BOLKMS BO105S				VALVE 97914211	LEAK BLEED SYS		10/2/97 HEEA0011193
BLEED VALVE LEAKS, 20 DEGREE DROP IN TOT.									
6230 HEEA	5029H S670	BOLKMS BO105S			4638001004	MAST 4619305032	CORRODED M/R	4496	10/7/97 HEEA0011216
CORRODED (FLANGE AND BORE AREA) REPLACED WITH NEW MAST.									

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6230 HEEA	911BR S719	BOLKMS BO105S			4638001004	ROTOR MAST 4638205005	CORRODED M/R	4811	10/7/97 HEEA0011215
CORRODED (EDGE OF FLANGE AND BORES) REPLACED WITH NEW MAST.									
6310 HEEA		BOLKMS BO105S				CLUTCH 4638202007	MIS ASSEMBLED FREEWHEEL		10/2/97 HEEA0011164
FREEWHEEL CLUTCH ASSEMBLED INCORRECTLY.									
6510 HEEA	911BR S719	BOLKMS BO105S				SHAFT 1053180301	CORRODED T/R		10/2/97 HEEA0011147
T/R SHAFT CORROSION AT ZONE D AND SCORING AT ZONE F.									
7714 HEEA	54197 S805	BOLKMS BO105S				INDICATOR DL41239	FAILED SINGLE RPM		10/2/97 HEEA0011148
RPM GAUGE WILL NOT GO PAST 5%.									
7714 HEEA	54197 S805	BOLKMS BO105S				INDICATOR DL41239	FAILED SINGLE RPM		10/2/97 HEEA0011149
INDICATOR DOES NOT INDICATE ABOVE 5%. EXCESSIVE FRICTION ERROR.									
7923 HEEA	8199J S826	BOLKMS BO105S				VALVE 209072433101	FAILED OIL SOV		10/2/97 HEEA0011169
VALVE WILL NOT OPEN.									
3414 HEEA	401PH 7050	BOLKMS BK117A3				INDICATOR 1179404203	FAILED AIR SPEED		10/2/97 HEEA0011178
AIR SPEED NEEDLE DOES NOT RETURN TO ZERO ON INDICATOR.									
3610 HEEA	134AE 7237	BOLKMS BK117B2				VALVE 97914211	FAILED BLEED SYS		10/2/97 HEEA0011192
NO. 1 ENGINE HAD HIGH TOT. BLEED AIR VALVE FAILED.									
6720 HEEA	911LK 7068	BOLKMS BK117B2				ACTUATOR 741C000004	LEAKING T/R		9/30/97 HEEA0011115
ACTUATOR LEAKING BEYOND LIMITS.									

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7250 R7MA	117CW 7125	BOLKMS BK117A4	LYC L.TS101650B1			ROTOR ASSY 414129001	BLADE SHIFT POWER TURBINE	3265 1837	6/12/97 97ZZZX4346
ROTOR ASSY FAILED SB LT101-72-10-0153. EXCESSIVE IBPT BLADE SHIFT. FAILED Q-ROTOR 7.28 GMIN2. REPLACED WITH USED UNIT, CORRECTED PROBLEM. PART TOTAL CYCLES, 8,268.7.									
7310	230H 7134	BOLKMS BK117A4	LYC L.TS101650B1			FUEL MANIFOLD 430137601	LEAK NR 1 ENGINE		9/25/97 97ZZZX4336
*****	PIN HOLE LEAK IN TUBING BETWEEN NOZZLES. HIGH PRESSURE FUEL SPRAYING INTO ENGINE COMPARTMENT. SUBMITTER STATED THE TUBING BETWEEN NOZZLES SHOULD BE REPLACED AT OVERHAUL. ALLIED SIGNAL SHOULD FIELD FLEX HOSE MANIFOLD ASAP.								
7310	230H 7136	BOLKMS BK117A4	LYC L.TS101650B1			FUEL MANIFOLD	LEAK NR 2 ENGINE		9/25/97 97ZZZX4337
HIGH PRESSURE LEAK AT BRAZE JOINT. FUEL SPRAYING IN ENGINE COMPARTMENT. SUBMITTER STATED BRAZE JOINT TUBING SHOULD BE REPLACED AT OVERHAUL.									
6220	8047L 470699	HUGHES TH55A				RING 269A1329	MISINSTALLED DROOP STOP		9/19/97 97ZZZX4341
*****	DURING AN ANNUAL INSPECTION, DISCOVERED THE DROOP STOP RING WAS PREVIOUSLY INSTALLED INVERTED. THE MAIN ROTOR HEAD WAS ASSEMBLED THREE YEARS AND 60 HOURS PRIOR TO THIS INSPECTION.								
6300	522FB LN002	HUGHES 500N			369A535041	BEARING 369A5361	SEAL CLIP FAILED ORIDE CLUTCH	256	9/25/97 97ZZZX4338
LOWER SEAL RETAINING CLIP FELL OUT DURING FLIGHT. FOUND DURING 100-HOUR INSPECTION.									
6300	527FB LN007	HUGHES 500N				BEARING 369A5361	SEAL CLIP FAILED ORIDE CLUTCH	297	9/25/97 97ZZZX4339
LOWER BEARING SEAL CLIP FELL OUT DURING FLIGHT. FOUND DURING 300-HOUR INSPECTION.									
6220 JYDR	159AC 64084	SKRSKY S64F			651001130080	BRACKET BOLT 6510311065102	CRACKED M/R DAMPER	997	9/17/97 97ZZZX4347
DURING OVERHAUL OF THE MAIN ROTOR HEAD, A FLUORESCENT MAGNETIC PARTICLE INSPECTION REVEALED A TOTAL OF 4 CRACK INDICATIONS IN BOLT HEAD TO SHANK RADIUS. LARGEST CRACK IS 0.200 INCH IN LENGTH RADially AROUND SHANK. THREE SMALL CRACKS ARE 0.040 INCH LONG EACH. NO REASON FOR THE CRACKING IS APPARENT.									
2430 HEEA	5435V 760158	SKRSKY S76A				DC CONTROL UNIT 7655009006105	DAMAGED DC SYS		10/2/97 HEEA0011159
DC CONTROL UNIT POSSIBLY DAMAGED DUE TO PIN "H" THROUGH K2 RELAY COIL RESISTANCE ONLY 3 OHMS INSTEAD OF 50 10.									

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3234	54C	SKRSKY				CONTROL VALVE	MISWIRED		9/15/97
	760348	S76B				09110777004	LANDING GEAR		97ZZZX4351
*****	THE LANDING GEAR CONTROL VALVE REMOVED FOR OCCASIONAL POPPING OF THE 'MANUAL RESET' BUTTON WHICH KEPT THE GEAR FROM BEING RETRACTED. AN O/H VALVE, ARKWIN IND, INC., PN 0911077-004, SIKORSKY PN 76650-02802-0911077-004, SIKORSKY PN 76650-02802-104, SN 0557A WAS INSTALLED IN HELICOPTER. WHEN ATTEMPTING TO OPERATE THE GEAR, DISCOVERED WITH THE GEAR HANDLE IN THE DOWN POSITION, THE GEAR WOULD RETRACT, AND EXTEND WHEN IN THE UP POSITION. AFTER FURTHER INVESIGATION, FOUND THE UP AND DOWN SOLENOIDS ON THE VALVE WERE WIRED BACKWARDS. ANOTHER VALVE WAS INSTALLED AND THE GEAR OPERATED NORMALLY.								
3414	1546G	SKRSKY				INDICATOR	SLOW		10/2/97
HEEA	760076	S76A				8502CS20LW	AIR SPEED		HEEA0011156
	COPILOTS AIR SPEED INDICATOR 20 KNOTS SLOWER THAN PILOTS GAUGE.								
3421	1547D	SKRSKY				VERTICAL GYRO	FAILED		10/2/97
HEEA	760077	S76A				7660002113103	COCKPIT AFCS		HEEA0011163
	VERT GYRO CAUSING KICKING IN AFCS PITCH CHANNEL.								
5330		SKRSKY				PANEL ASSY	MIS TRIMED		10/2/97
HEEA		S76A				7620402005044	FUSELAGE		HEEA0011166
	RECEIVED PANEL HAD BEEN PREVIOUSLY LOCATED AND OUTER EDGES TRIMMED TOO SHORT.								
6300	22342	SKRSKY				BEARING	EROSION		10/2/97
HEEA	760096	S76A				SB7003102	M/R		HEEA0011137
	BEARING EXCESSIVE EROSION.								
6320	4253S	SKRSKY				INPUT HOUSING	CRACKED		10/7/97
HEEA	760035	S76A			763510950004	7635109024041	M/R GR BOX		HEEA0011217
	GR BOX INPUT HOUSING CRACKED. REPLACED WITH NEW INPUT HOUSING.								
6320	5435V	SKRSKY				INPUT HOUSING	CRACKED		10/7/97
HEEA	760158	S76A			763510950004	7635109024041	GR BOX		HEEA0011218
	GR BOX HOUSING CRACKED. REPLACED WITH NEW INPUT HOUSING.								
7600	22342	SKRSKY				AMPLIFIER	INOPERATIVE		10/2/97
HEEA	760096	S76A				7690001880106	DROOP COMP		HEEA0011155
	NR1 DROOP COMP AMPLIFIER INOPERATIVE.								

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3452 HEEA	40466 3004	SNIAS AS350B2			KT76	TRANSPONDER 066106200	FAILED COCKPIT ATC		10/6/97 HEEA0011210
SELECTOR KNOBS SHOW FALSE PULSES WHEN TURNED.									
6520 HEEA	350BZ 2653	SNIAS AS350B2				BEARING 350A33215300	SEPARATION T/R GR BOX	608	10/1/97 HEEA0011127
BEARING SEPARATION.									
7250	6099P 2818	SNIAS AS350B2	TMECA ARRIFIELD			CIRCLIP 4560119360	MISSING MO 3 BEARING		9/17/97 97ZZZX4348
DURING CLEANING OF REAR BEARING SUPPORT ASSEMBLY, INSPECTION FOUND THE CIRCLIP THAT HOLDS REAR BEARING POWER TURBINE GUIDE VANE MISSING. SUSPECT CAUSE: DURING LAST MAINTENANCE PROCEDURES BY TURBOMECA CO., CIRCLIP WAS NOT INSTALLED. A/C TT: 1,699.5 HOURS. ENG TT: 1,563.2 HOURS.									
7532 HEEA	350BZ 2653	SNIAS AS350B2	TMECA ARRIFIELD			BLEED VALVE 9550158250	MALFUNCTION ENGINE BLEED		9/30/97 HEEA0011117
BLEED VALVE FLAGGING TOO SOON, POPPING AT LOW RPM.									

DOMESTIC SERVICE DIFFICULTY REPORT SUMMARY - ENGINES						10/12/97 TO 10/18/97	ISSUE	97-42	ZAC-327
ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
8530	5611D	BEECH	PWA			VALVE	BROKE		9/25/97
	BA316	E18S	R985AN14B			2433952	ENG CYL EXH	1460	97ZZZX4387
	EXHAUST VALVE BROKE DURING A FULL POWER APPLICATION. SUSPECT CAUSE MAY BE REDUCED LEAD CONTENT IN FUEL.								
7261	3194P	BELL	AIJ SN			OIL SUMP	COKED	9130	8/31/97
EOPA	45788	206L1	250C28				NR 6-7 BEARINGS	1101	EOPA9704
*****	DURING CRUISE FLIGHT, TORQUE BEGAN FLUCTUATING FROM ZERO TO 70 PERCENT. NO YAW OR OTHER ADVERSE CONDITIONS. WITHIN 30 SECONDS, ENGINE OIL PRESSURE DROPPED FROM 115 PSI TO 30 PSI. WHILE LANDING, BOTH READINGS DROPPED TO ZERO. DURING THIS TIME PERIOD, OIL TEMP AND TOT SHOWED NORMAL. ON LANDING, NOTED LARGE VOLUME OF WHITE SMOKE COMING FROM ENGINE EXHAUST. RECORDS INSPECTION SHOWED LAST BEARINGS FLOW CHECK WAS 170 CC'S, WELL ABOVE MINIMUM OF 90 CC IN MM.								
7313	50046	BELL	AIJ SN			NOZZLE	MIS MFG		10/6/97
HEEA	45173	206L1	250C28B		23033185	23031866	NR 2 SEAL BORE		HEEA0011201
	RECEIVING INSPECTION REVEALED: EXCESSIVE RUNOUT .020 ON NR2 NOZZLE SEAL BORE.								
7314	2245Y	BELL	AIJ SN			PUMP	SHAFT WORN	11881	10/2/97
HEEA	45751	206L1	250C28B			3881005	FUEL PUMP		HEEA0011198
	FOUND DRIVE SHAFT AND GEAR SPLINE WEAR.								
7320	6160Y	BELL	AIJ SN			ACTUATOR	FAILED		10/2/97
HEEA	51609	206L3	250C30P			206062721109	ENG CONTROL		HEEA0011187
	ACTUATOR WILL NOT MOTOR IN EITHER DIRECTION.								
7412	6161A	BELL	AIJ SN			EXCITER	INTERMITTENT		10/2/97
HEEA	51611	206L3	250C30P			49522	ENGINE		HEEA0011194
	EXCITER INTERMITTENT SPARK.								
7320	3897N	BELL	GF			HMU	MALFUNCTION		10/2/97
HEEA	28106	214ST	CT72A			6038T62P24	ENGINE		HEEA0011184
	HMU WON'T GO INTO ECU LOCK OUT.								
7321	3897N	BELL	GF			ECU	MALFUNCTION		10/2/97
HEEA	28106	214ST	CT72A			7046M95G04	ENGINE		HEEA0011182
	DOES NOT RESPOND TO TRIM OR RPM WHEEL. NO POWER CHECK READ OUT ON ADC.								

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7321 HEEA	3897N 28106	BELL 214ST	GE CT72A			ECU 7046M95G03	MALFUNCTION ENGINE		10/2/97 HEEA0011181
ECU CAUSING ENGINE N2 TO GO RIGHT ALONG WITH TORQUE.									
7322 HEEA	22347 36005	BELL 412	PWA PT6T3B			FUEL CONTROL 324473511	CONTAMINATED ENGINE	10912	10/2/97 HEEA0011199
8 TO 10% OSCILLATION AT 100% N2. FOUND FUEL CONTROL CONTAMINATED WITH TAN COLORED SAND LIKE MATERIAL. CLEANED ALL ENGINE AIR LINES AND REPLACED FUEL CONTROL.									
7250 R7MA	117CW 7125	BOLKMS BK117A4	I.YC LTS101650B1			ROTOR ASSY 414129001	BLADE SHIFT POWER TURBINE	3265 1837	6/12/97 97ZZZX4346
ROTOR ASSY FAILED SB LT101-72-10-0153. EXCESSIVE IBPT BLADE SHIFT. FAILED Q-ROTOR 7.28 GMIN2. REPLACED WITH USED UNIT, CORRECTED PROBLEM. PART TOTAL CYCLES, 8,268.7.									
7310  *****	230H 7134	BOLKMS BK117A4	I.YC LTS101650B1			FUEL MANIFOLD 430137601	LEAK NR 1 ENGINE	 960	9/25/97 97ZZZX4336
PIN HOLE LEAK IN TUBING BETWEEN NOZZLES. HIGH PRESSURE FUEL SPRAYING INTO ENGINE COMPARTMENT. SUBMITTER STATED THE TUBING BETWEEN NOZZLES SHOULD BE REPLACED AT OVERHAUL. ALLIED SIGNAL SHOULD FIELD FLEX HOSE MANIFOLD ASAP.									
7310	230H 7136	BOLKMS BK117A4	I.YC LTS101650B1			FUEL MANIFOLD	LEAK NR 2 ENGINE	 32	9/25/97 97ZZZX4337
HIGH PRESSURE LEAK AT BRAZE JOINT. FUEL SPRAYING IN ENGINE COMPARTMENT. SUBMITTER STATED BRAZE JOINT TUBING SHOULD BE REPLACED AT OVERHAUL.									
7414	733WT 17268613	CESSNA 172N	I.YC O320H2AD		BENDIX D2000	DISTRIBUTOR GEAR 10682014	TEETH FAILED MAGNETO	 1046	9/1/97 97ZZZX4327
ENGINE FAILED PRE-TAKEOFF MAGNETO CHECK. PILOT RAN ENGINE AT HIGH RPM AND LEANED ENGINE TO SEE IF PLUGS WERE FOULED. AFTER REDUCING POWER ON SECOND MAGNETO CHECK, MAG WAS DEAD. FOUND 3 TEETH MISSING ON DISTRIBUTOR GEAR. MAG HAS 1,045 HOURS TSMO.									
7322	954CC 18265290	CESSNA 182Q	CONT O470R			CARBURETOR MA45	NOT MARKED SERIAL NUMBER		9/2/97 97ZZZX4268
CARBURETORS BEING PRODUCED BY PRECISION AIRMOTIVE ARE NOT IN COMPLIANCE WITH MARVEL-SCHEBELER AD 63-22-03. THE LETTER 'V' IS NOT STAMPED UNDER THE SERIAL NUMBER. SUBMITTER STATED REQUIRE PRECISION AIRMOTIVE TO RECTIFY ALL THE CARBURETORS THEY HAVE PRODUCED THIS WAY OR REVISE AD 63-22-03 TO REFLECT THE CURRENT MANUFACTURING PROCESS.									
8520	9412Z U20606473	CESSNA U206G	CONT IO520F			CRANKSHAFT VAR	BROKE NR 2 MAIN	1382	9/20/97 97ZZZX4391
WHILE IN CRUISE FLIGHT, CRANKSHAFT BROKE WHERE NR 1 ROD THROW COMES OFF REAR OF NR 2 MAIN. AIRCRAFT ON FLOATS, MADE EMERGENCY LANDING ON DRY LAKE BED. FLOATS SHEARED OFF, PLANE WENT UPSIDE DOWN, AND PLANE IS DESTROYED.									

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8520	4811K P21000330	CESSNA P210N	CONT TSIO520P			STUD ASSY 642185A1	MISTORQUED CRANKSHAFT	621	8/28/97 97ZZZX4330
LOW OIL PRESSURE; ALL EXTERIOR INSPECTION AND TESTS EXHAUSTED. REMOVED ENGINE AND DIS-ASSEMBLED. FOUND VISUAL SIGNS OF ENGINE MAIN BEARING BORE MISALIGNMENT, I.E., MAIN BEARING PATTERN COVERING ONLY 50 PERCENT OF AREA, ALL FIVE JOURNALS. LOG BOOK ENTRY SHOWS PROPELLER STRIKE, DISASSEMBLY, INSPECTION, REPAIRS AND RE-ASSEMBLY, 99.6 HRS, PREVIOUSLY ON 8-29-96, BY CUSTOM AIRMOTIVE, TULSA, OK. W.O. NR 14148; FAA REPAIR STATION NR DC2R763K. SUSPECT IMPROPER TORQUE, AND/OR IMPROPER TORQUE SEQUENCE AS SET FORTH IN THE MFG M & O MANUAL.									
8520	145ES 421B0143	CESSNA 421B	CONT GTSIO520H			CRANKCASE	CRACKED NR 2 CYL ATTACH	1719 800	10/1/97 97ZZZX4379
CRANKCASE CRACKED BOTTOM NR 2 CYLINDER ATTACH, AFT .4375 INCH CYLINDER STUD.									
7240 ISYA	84EA 5500484	CESSNA 550	PWA JT15D4		31003061	GROMMET ASSY 310501601	BROKEN COMB LINER	6342 2843	9/19/97 97ZZZX4345
***** RIGHT IGNITER WAS EXTREMELY DIFFICULT TO REMOVE. WHEN REMOVED PARTS WERE HEARD TO FALL INSIDE COMBUSTION CHAMBER. BORESCOPE INSPECTION REVEALED PORTIONS OF BOTH LEFT AND RIGHT GROMMET ASSEMBLIES LYING IN COMBUSTION CHAMBER. ENGINE HAS BEEN DISASSEMBLED TO HSI LEVEL AND REPAIRS ARE PENDING.									
7250	6099P 2818	SNIAS AS350B2	TMECA ARRIFEL1D			CIRCLIP 4560119360	MISSING MO 3 BEARING		9/17/97 97ZZZX4348
DURING CLEANING OF REAR BEARING SUPPORT ASSEMBLY, INSPECTION FOUND THE CIRCLIP THAT HOLDS REAR BEARING POWER TURBINE GUIDE VANE MISSING. SUSPECT CAUSE: DURING LAST MAINTENANCE PROCEDURES BY TURBOMECA CO., CIRCLIP WAS NOT INSTALLED. A/C TT: 1,699.5 HOURS. ENG TT: 1,563.2 HOURS.									
7532 HEEA	350BZ 2653	SNIAS AS350B2	TMECA ARRIFEL1D			BLEED VALVE 9550158250	MALFUNCTION ENGINE BLEED		9/30/97 HEEA0011117
BLEED VALVE FLAGGING TOO SOON, POPPING AT LOW RPM.									

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3450 HEEA	39PH BL 3	BEECH 200CBEECH				ANTENNA LOOP 6222363001	CORRODED VOR		10/2/97 HEEA0011179
CORROSION ON ANTENNA. WEAK SIGNAL. SENT TO COLLINS AVIONICS FOR INSPECTION AND REPAIR.									
3454 DWHA	622DC BB491	BEECH 200BEECH			COLLINS 339R1B	R-NAV PWR SUPPLY NCS31A	SHORTED COCKPIT		7/31/97 97ZZZX4350
SMOKE AND AN ODOR NOTICED IN CABIN DURING FLIGHT. A PRECAUTIONARY LANDING WAS MADE AT FRESNO AIRPORT. AFTER LANDING THE AIRCRAFT WAS GROUNDED AND A REPLACEMENT AIRCRAFT AND MECHANIC WERE DISPATCHED. THE MECHANIC TROUBLESHOT THE PROBLEM AND FOUND THAT R-NAV NCS 31A INDICATOR POWER SUPPLY HAD CREATED SMOKE AND BLOWN CIRCUIT BREAKER. SYSTEM WAS DISABLED AND CIRCUIT BREAKER BANDED. OPS CHECK OF AIRCRAFT ELECTRICAL AND NAVIGATION SYSTEMS WAS NORMAL. AIRCRAFT RETURNED TO BASE WITH NO FURTHER PROBLEM.									
2562 HEEA	2758N 45267	BELL 206L1		NARCO		ELT ELT910	MALFUNCTION COCKPIT		10/2/97 HEEA0011190
ELT STAYS ON AND WILL NOT SHUT OFF.									
3414 HEEA	3181Y 3772	BELL 206B3				INDICATOR 8000	READS LOW COCKPIT AIR SPD		10/2/97 HEEA0011160
AIR SPEED INDICATES LOW OUT OF TOLERANCE BELOW 80 KNOTS.									
3424 HEEA	513EH 45421	BELL 206L1				INDICATOR 9551A	INOPERATIVE COCKPIT T&B		10/2/97 HEEA0011144
T & B INDICATOR INOPERATIVE. TIME SINCE REPAIR 46:35.									
3452 HEEA	2163Y 3496	BELL 206B3				TRANSPONDER 066106202	MALFUNCTION COCKPIT ATC		10/6/97 HEEA0011204
REPORTS 3136 WHEN SELECTED TO 0152. VERIFIED EXTRA PULSES AS CODING SWITCHES WERE CHANGED. CLEANED CODING SWITCHES. REPLACED BROKEN FACEPLATE ASSEMBLY AND INSTALLED Q415 HEAT SINK. INSPECTED AND BENCH CHECK GOOD.									
3452 HEEA	2270G 3610	BELL 206B3			KT76	TRANSPONDER 066106200	MALFUNCTION COCKPIT ATC		10/6/97 HEEA0011209
TRANSPONDER IDENT LIGHT WEAK AND OFF FREQUENCY. VERIFIED WEAK REPLY LIGHT PHOTODETECTOR V301. UNIT WAS ON FREQUENCY. REPLACED V301 PHOTODETECTOR. CLEANED CODING SWITCHES. BENCH CHECK GOOD.									
3452 HEEA	104PH 3622	BELL 206B3			KT76	TRANSPONDER 066106200	MALFUNCTION COCKPIT ATC		10/6/97 HEEA0011203
TRANSMITS DIFFERENT CODE NUMBERS THAN SELECTED CODE. PERFORMED PRELIMINARY INSPECTION, CLEANED WAFER SWITCHES. REPAIRED. REPLACED C401 AND C402 CAPACITORS. REPAIRED. BENCH CHECK GOOD.									

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3452 HEEA	2278V 3632	BELL 206B3				TRANSPONDER C2080A	LOW POWER PULSE OSC		9/30/97 HEEA0011121
TRANSPONDER LOW POWER OUT.									
3452 HEEA	406EH 45183	BELL 206L1			KT76	TRANSPONDER 066106200	FAULTY COCKPIT ATC		10/6/97 HEEA0011205
NUMBERS ON TRANSPONDER DOES NOT MATCH WHAT TOWER SAYS. FOUND CODING SWITCHES DIRTY, POSSIBLE CAUSING INCORRECT CODING. CLEANED SWITCHES TO REPAIR. REPLACED WEAK V101 CAVITY OSCILLATOR AND DETERIORATED R477 RESISTOR. ADJUSTED AS NEEDED. BENCH CHECK GOOD.									
3452 HEEA	1077A 45382	BELL 206L1			KT76	TRANSPONDER 066106200	KNOB BROKEN COCKPIT ATC		10/7/97 HEEA0011213
TRANSPONDER KNOB BROKEN. PERFORMED PRELIMINARY INSPECTION, REPLACED KNOB. BEGAN BENCH CHECK AND FOUND REPLY LIGHT FLASHING AND PULSE WIDTH OUT OF SPECS.									
3452 HEEA	31821 51076	BELL 206L3			KT76	TRANSPONDER, 066106200	WONT TEST COCKPIT ATC		10/6/97 HEEA0011206
WON'T TEST. PERFORMED PRELINARY INSPECTION, FOUND V101 BAD, REPLACED V101 CAVITY TUBE. REPAIRED. ALSO REPLACED V301 PHOTOCCELL DUE TO BEING INOPERATIVE. REPAIRED. BENCH CHECK GOOD.									
2210 HEEA	102PH 30899	BELL 212				TARSYN 2593996333	SHORTED AUTO FLIGHT		10/2/97 HEEA0011152
TARSYN INTERNALLY SHORTED.									
2210 HEEA	102PH 30899	BELL 212				TARSYN 2593996333	SHORTED COCKPIT AUTO FLT		10/2/97 HEEA0011151
TARSYN INTERNALLY SHORTED.									
3417 HEEA	6957Y 28139	BELL 214ST				AIR DATA COMP 214175421101	FAILED COCKPIT		10/2/97 HEEA0011162
GROSS WEIGHT DOES NOT DECREASE AS FUEL LOAD DECREASES.									
3452 HEEA	407MM 53060	BELL 407				TRANSPONDER 066010620000	MALFUNCTION COCKPIT ATC		9/30/97 HEEA0011114
TRANSPONDER DEFECTIVE. WITH 6033 CODE IN TRANSPONDER, ATC RECEIVES 6733.									

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3452 HEEA	402PH 53159	BELL 407			KT76	TRANSPONDER 066106200	INOPERATIVE COCKPIT ATC		10/7/97 HEEA0011212
INOPERATIVE. NO REPLY LIGHT. FOUND DS5 BULB BAD. REPLACED DS5 BULB AND ADJUSTED FREQUENCY TO SPECS. REPAIRED UNIT. BENCH CHECK GOOD.									
2210 HEEA	21498 36003	BELL 412				YAW CONTROL 7001484	DEFECTIVE AFCS		10/2/97 HEEA0011157
YAW CHANNEL KICKS IN ALL MODES.									
2210 HEEA	7128R 36007	BELL 412				TARSYN 2593996333	DEFECTIVE AUTO FLIGHT		10/2/97 HEEA0011135
TARSYN DEFECTIVE. ADI ROLLS OVER AND AFCS KICKS IN PITCH.									
2312 HEEA	3893S 33022	BELL 412				TRANSCIEIVER 7001840913	FAILED COCKPIT VHF		10/2/97 HEEA0011177
TRANSCIEIVER PEGS ON HIGH SIDE. FAILED 5.1 ON SST.									
3414 HEEA	HL923 33150	BELL 412				INDICATOR 412075009105	READS LOW COCKPIT AIRSPD		9/30/97 HEEA0011119
AIRSPEED INDICATES LOW OUT OF TOLERANCE BELOW 60 KNOTS.									
3421 HEEA	21498 36003	BELL 412				INDICATOR 4020936903	FAILED 3 AXIS GYRO		10/2/97 HEEA0011161
ATTITUDE GYRO WILL NOT REMAIN ERECT.									
3425 HEEA	3893P 33012	BELL 412				INDICATOR 1113025	DEFECTIVE COCKPIT HSI		10/2/97 HEEA0011133
NUMBERS ABOVE COURSE HARD TO SEE WHEN SETTING IN PILOTS SEAT DUE TO BLACK BAR LOW. NEW GAUGE WAS HIGHER UP.									
3444 HEEA	HL923 33150	BELL 412				INDICATOR 7000839904	READS LOW RADAR ALTIMETER		9/30/97 HEEA0011120
INDICATION READS 30 DEGREES LOW; LOOSE PART INSIDE; DH LAMP COVER MISSING.									
3454 HEEA	6559Z 36019	BELL 412				CONTROL 071121627	DEFECTIVE COCKPIT NAV		10/7/97 HEEA0011214
NAV CONTROL LED READOUT TOO DIM FOR DAYLIGHT OPERATION. PERFORMED PRELIMINARY INSPECTION AND FOUND V101 PHOTOCELL BAD. REPLACED PHOTOCELL. BENCH CHECK GOOD.									

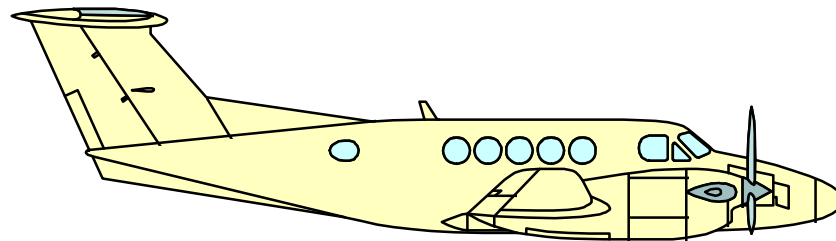
ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3457 HEEA	2148K 36001	BELL 412			GARMIN	GPS165 0110010600	ERRORS COCKPIT		10/2/97 HEEA0011176
GPS BEARING INTERMITTENTLY ERRONEOUS.									
3452 HEEA	7170D S840	BOLKMS BO105S			KT76	TRANSPONDER 066106200	INOPERATIVE COCKPIT ATC		10/6/97 HEEA0011207
TRANSPONDER INOPERATIVE. PERFORMED PRELINARY INSPECTION. REPLACED RESISTOR R441, RESISTOR R447, TRANSISTOR Q415, DIODE CR404, DIODE CR407 AND RESISTOR R429. REPAIRED. ALSO REPLACED FACEPLATE ASSY AND PHOTOCCELL V301. TESTED, ADJUSTED POWER OUT, PULSE WIDTH AND FREQUENCY.BENCH CHECK GOOD.									
3452 HEEA	4302G S853	BOLKMS BO105S			KT76	TRANSPONDER 066106200	FAILED COCKPIT ATC		10/6/97 HEEA0011208
TRANSPONDER INTERROGATION LIGHT INOPERATIVE. PERFORMED PRELINARY INSPECTION. FOUND DS301 LAMP VERY DIM. REPLACED V301 PHOTOCCELL. REPAIRED. ADJUSTED UNIT TO SPECS. BENCH CHECK GOOD.									
3414 HEEA	401PH 7050	BOLKMS BK117A3				INDICATOR 1179404203	FAILED AIR SPEED		10/2/97 HEEA0011178
AIR SPEED NEEDLE DOES NOT RETURN TO ZERO ON INDICATOR.									
6113	979SP 7812015	PIPER PA31325				BULKHEAD 4393304	CRACKED LT SPINNER	4103	9/23/97 97ZZZX4392
SPINNER BULKHEAD CRACKED (LEFT BULKHEAD) FROM SPINNER DOME ATTACH SCREW HOLE AROUND AND DOWN BACK OF BULKHEAD, BUT NOT THROUGH DOUBLER.									
6113	282JN 317552005	PIPER PA31350				BULKHEAD 4393303	CRACKED SPINNER	6557	9/24/97 97ZZZX4383
BULKHEAD CRACKED WHERE STARTER RING GEAR ATTACHES (FOUND TWO HOLES CRACKED).									
6122	2121X 347970180	PIPER PA34200T			E3	FLYWEIGHT B41832	ARM CRACK PROPELLER GOV	1728	9/25/97 97ZZZX4381
GOVERNOR FLYWEIGHT ARM HAS A DIAGONAL CRACK INDICATION APPROXIMATELY .75 INCH LONG. COULD NOT REMOVE IT WITH LIGHT BUFFING.									
3414 HEEA	1546G 760076	SKRSKY S76A				INDICATOR 8502CS20LW	SLOW AIR SPEED		10/2/97 HEEA0011156
COPILOTS AIR SPEED INDICATOR 20 KNOTS SLOWER THAN PILOTS GAUGE.									
3421 HEEA	1547D 760077	SKRSKY S76A				VERTICAL GYRO 7660002113103	FAILED COCKPIT AFCS		10/2/97 HEEA0011163
VERT GYRO CAUSING KICKING IN AFCS PITCH CHANNEL.									

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
3452	40466	SNIAS				TRANSPONDER	FAILED		10/6/97
HEEA	3004	AS350B2			KT76	066106200	COCKPIT ATC		HEEA0011210
SELECTOR KNOBS SHOW FALSE PULSES WHEN TURNED.									

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6111	6285A	CESSNA		HARTZL		BUSHING	BROKEN		7/15/97
	33085	182		HC82V*			BLADE PITCH		97ZZZX4388
*****	PILOT REPORTED VIBRATION AND POWER LOSS. INVESTIGATION FOUND PITCH CHANGE PHENOLIC BUSHING ON ONE BLADE BROKEN ALLOWING BLADE TO MOVE TO LOWER PITCH THAN OTHER BLADE.								



# **INTERNATIONAL SERVICE DIFFICULTY REPORT**



INTERNATIONAL SERVICE DIFFICULTY REPORT SUMMARY - AIRCRAFT

10/12/97 TO 10/18/97 ISSUE 97-42 ZAC-327

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND	TT TSO	DIFF. DATE OPER CONT NO
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7601		CESSNA 550	PWA JT15D4		WOODWAR	FLEX DRIVE SHAFT 1551104	CORRODED ENG SYNC ACT		7/15/97 CA970722021
------	--	---------------	---------------	--	---------	-----------------------------	--------------------------	--	------------------------

(CAN) DURING TROUBLESHOOTING OF THE ENGINE SYNCHRONIZATION SYSTEM THE ACTUATOR FLEX DRIVE SHAFT WAS FOUND BROKEN INTO TWO PIECES AT APPROXIMATELY MID SPAN. THE CABLE WAS CORRODED WITH WATER PRESENT.

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
7414		CESSNA	IYC	MCAULY		MAGNETO	CRACKED	2793	7/10/97
		172L	O320F2D	1C160CTM		4250	ACROSS COIL CASE	823	CA970722015
	(CAN) DURING ANNUAL INSPECTION THE MAGNETO COIL WAS FOUND CRACKED ACROSS ITS CASE. FAA AD 81-16-05 WHICH PERTAINS TO THIS SUBJECT WAS SIGNED OFF IN THE ENGINE LOG BOOKS, BUT WAS NOT COMPLIED WITH.								
7414		PIPER	IYC		BENDIX	BREAKER POINTS	BROKEN	100	7/17/97
		PA12	O320A2A		S4LN20	10357174	MAG		CA970728004
	(CAN) ENGINE RUNNING ROUGH ON TAXI. CAM FOLLOWER OF POINTS ASSEMBLY FOUND BROKEN. THIS IS THE SECOND SET OF POINTS TO FAIL WITH THE SAME CONDITION, IN THE SAME MAGNETO, WITHIN 100 HOURS OF OPERATION. CLOSER INSPECTION FOR PROBABLE CAUSE FOUND NOTCHES IN THE CAM, P/N 10-88543-1. THE CAM AND POINTS WERE REPLACED.								

ATA OPER	REG. NO SERIAL NO	ACFT MAKE ACFT MODEL	ENG MAKE ENG MDL	PROP MAKE PROP MDL	COMP MFG COMP MDL	PART NAME PART NUMBER	PART COND PART LOC.	TT TSO	DIFF. DATE OPER CONT NO
6140		DHAV DHC6300	PWA PT6A27	HARTZL HCB3TN3		SWITCH KX5116	BROKEN RT BETA		7/7/97 CA970722020
*****	(CAN) AFTER TAKEOFF ENGINE LOST POWER, AND A LARGE THROTTLE STAGGER WAS NOTICED, ALONG WITH A SIGNIFICANT DIFFERENCE IN FUEL FLOW. PILOT SHUT OFF AUTOFATHER SYSTEM AND NOTICED THAT THE BLUE BETA SYSTEM LIGHT WAS ON WITH A LARGE INCREASE IN ENGINE TORQUE AND LOWER PROP SPEED. INSPECTION FOUND THAT THE BETA MICRO SWITCH HAD FAILED CLOSED.								



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

## **SERVICE DIFFICULTY REPORT SUMMARY**

### **GENERAL AVIATION - INDEX**



The following information provides a tally of the Service Difficulty Reports (SDR's) contained in this weeks issue of the General Aviation SDR Summary. The totals represent only a summation of the SDR's that were submitted to the FAA, Aviation Data Systems Branch, AFS-620, and processed in time for inclusion in the Summary. The first table is a tally of the number of SDR's submitted through the indicated Flight Standards District Office (FSDO). The second table sorts the SDR's by the aircraft or equipment make and model. The heading at the top of each table provides a two digit Joint Aircraft System/Component (JASC) code grouping (e.g., JASC codes 1100 thru 1800 are represented by the heading labeled 11-18) which categorizes in general, the problem areas for each reported discrepancy.

The Flight Standards Service Difficulty Program objective is to achieve prompt and appropriate correction of conditions adversely affecting continued airworthiness of aeronautical products. This is accomplished by the collection of Service Difficulty and Malfunction or Defect Reports. SDR's are consolidation and collation into common data base where they are analyzed for trends, problems, and alert information. This information is then disseminated to the appropriate segments of the aviation community and to other FAA offices.

The number of SDR's submitted is not an indicator of the mechanical reliability or fitness of an air carrier's aircraft fleet and should not be used as such. The air carriers certificate holding office has the primary responsibility for planning, programming evaluations, and assessing the performance of operators. Questions regarding an air carrier's fleet performance should be directed to the appropriate Flight Standards District Office, Certificate Management Office, or Certificate Management Unit.

**GENERAL AVIATION SUMMARY INDEX BY DISTRICT OFFICE**

10/12/97 TO 10/18/97 ISSUE 97-42

ZAC-327

DISTRICT OFFICE	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								
	11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
AL 01	0	0	0	0	0	0	1	0	1
AL 03	0	0	2	0	0	0	0	1	3
CA	0	0	0	0	0	1	3	0	4
CE 09	0	0	1	0	0	0	0	0	1
EA 03	0	0	1	0	0	0	0	1	2
EA 05	0	0	0	0	0	0	0	1	1
EA 07	0	1	0	0	0	0	2	0	3
EA 25	0	0	0	0	0	0	1	0	1
FS 01	0	0	0	0	0	0	1	0	1
GL 11	0	1	0	0	0	0	0	0	1
GL 15	0	0	0	0	1	2	0	0	3
GL 23	0	0	0	0	0	0	1	0	1
GL 25	0	0	0	0	0	0	1	0	1
NE 01	0	0	1	0	0	0	0	0	1
NM 09	0	1	0	0	0	3	0	0	4
NM 11	0	0	0	0	0	0	2	1	3
SO 11	0	0	2	0	0	0	0	0	2
SO 17	0	0	0	0	0	1	0	0	1
SW 03	0	15	32	0	11	22	19	0	99
SW 99	0	1	1	0	0	1	0	0	3
WP 01	0	0	1	0	0	0	0	0	1
WP 07	0	0	0	0	1	2	0	1	4
WP 13	0	0	1	0	0	0	0	1	2
WP 17	0	0	0	0	0	0	1	0	1
WP 23	0	1	0	0	0	0	0	0	1
WP 27	0	0	0	0	1	0	0	0	1

DISTRICT OFFICE	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								
	11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	TOTAL
TOTALS	0	20	42	0	14	32	32	6	146

**GENERAL AVIATION SUMMARY BY MANUFACT. MAKE AND MODEL**

10/12/97 TO 10/18/97 ISSUE 97-42

ZAC-327

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
BEECH	200BEECH	0	0	1	0	0	0	0	0	1
BEECH	200CBEECH	0	0	1	0	0	0	0	0	1
BEECH	58	0	1	0	0	0	0	0	0	1
BEECH	65B80	0	0	1	0	0	0	0	0	1
BEECH	E18S	0	0	0	0	0	0	0	1	1
BELL	206B3	0	0	5	0	1	0	2	0	8
BELL	206L1	0	1	3	0	3	4	3	0	14
BELL	206L3	0	1	1	0	3	3	3	0	11
BELL	206L4	0	1	0	0	0	1	0	0	2
BELL	212	0	3	0	0	1	0	1	0	5
BELL	214ST	0	3	2	0	0	2	3	0	10
BELL	407	0	0	2	0	0	2	1	0	5
BELL	412	0	6	11	0	2	1	3	0	23
BOEING	1072	0	0	0	0	0	1	0	0	1
BOEING	234	0	1	0	0	0	0	0	0	1
BOLKMS	BK117A3	0	0	1	0	0	0	0	0	1
BOLKMS	BK117A4	0	0	0	0	0	0	3	0	3
BOLKMS	BK117B2	0	0	1	0	0	1	0	0	2
BOLKMS	BO105S	0	0	3	0	0	4	3	0	10
CESSNA	172L	0	0	0	0	0	0	1	0	1
CESSNA	172N	0	0	0	0	0	0	1	0	1
CESSNA	182	0	0	0	0	0	1	0	0	1
CESSNA	182Q	0	0	0	0	0	0	1	0	1
CESSNA	402B	0	0	0	0	0	0	0	1	1
CESSNA	402C	0	0	1	0	0	0	1	0	2
CESSNA	421B	0	0	0	0	0	0	0	1	1

**GENERAL AVIATION SUMMARY BY MANUFACT. MAKE AND MODEL**

10/12/97 TO 10/18/97 ISSUE 97-42

ZAC-327

AIRCRAFT MAKE	AIRCRAFT MODEL	SDR TOTALS BY FAA ATA SYSTEM CHAPTER								TOTAL
		11-18	21-29	30-38	45-49	51-57	61-67	71-79	80-85	
CESSNA	550	0	0	0	0	1	0	2	0	3
CESSNA	P210N	0	0	0	0	0	0	0	1	1
CESSNA	U206E	0	0	1	0	0	0	0	0	1
CESSNA	U206G	0	0	0	0	0	0	0	1	1
DHAV	DHC6300	0	0	0	0	0	1	0	0	1
HUGHES	500N	0	0	0	0	0	2	0	0	2
HUGHES	TH55A	0	0	0	0	0	1	0	0	1
LUSCOM	8A	0	0	0	0	1	0	0	0	1
PIPER	PA12	0	0	0	0	0	0	1	0	1
PIPER	PA18150	0	0	1	0	0	0	0	0	1
PIPER	PA23250	0	0	1	0	0	0	0	0	1
PIPER	PA28181	0	1	0	0	0	0	0	0	1
PIPER	PA31325	0	0	0	0	0	1	0	0	1
PIPER	PA31350	0	0	0	0	1	1	0	1	3
PIPER	PA32300	0	1	0	0	0	0	0	0	1
PIPER	PA34200T	0	0	0	0	0	1	0	0	1
PIPER	PA46310P	0	0	2	0	0	0	0	0	2
SKRSKY	S64F	0	0	0	0	0	1	0	0	1
SKRSKY	S76A	0	1	2	0	1	3	1	0	8
SKRSKY	S76B	0	0	1	0	0	0	0	0	1
SNIAS	AS350B2	0	0	1	0	0	1	2	0	4
TOTALS		0	20	42	0	14	32	32	6	146

# JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

## PREFACE

The Joint Aircraft System/Component (JASC) Code Table is a modified version of the Air Transport Association of America (ATA), Specification 100 code. It was developed by the Federal Aviation Administration's (FAA), Aviation Data Systems Branch (AFS-620). Technical support was provided by the Galaxy Scientific Corporation, and various representatives of the air carrier and general aviation community.

Over the past four years, the JASC format of the ATA Spec 100 code has gained widespread industry acceptance. In a harmonized effort, the FAA's counterparts in Australia and Canada have adopted the JASC code with only a few exceptions. Some Canadian aircraft manufacturers have also recently adopted this new standard.

This code table is constructed by using the new JASC four (4) digit code, along with an abbreviated code title. The abbreviated titles have been modified in some cases to clarify the intended use of the accompanying code. This table can be used as a quick reference chart, to assist in the coding and review of aircraft structures or systems data (i.e., Service Difficulty Report (SDR), Accident/Incident Report).

The current coding scheme used in the JASC code was introduced in May 1991, for the technical classification of SDR's. Its predecessor, the FAA aircraft system/component code, was a similar but more complex eight-digit code which was developed over 25 years ago. It was constructed around the computer technology of that period. It consisted of a four digit numerical code plus a four alpha character code to make data retrieval possible. Since that time, computer technology has advanced many fold. Reducing the code from eight to four characters simplifies coding, and in some cases, makes JASC coding match the ATA Specification 100 first three digits, which are used to identify aircraft systems. The ATA code does not reference the fourth digit, so it is free to be used for identifying components.

The JASC code aircraft structural section has increased due to problems inherent with aging aircraft. As an example, FAA code 5301 SXBD was expanded to 20 items due to the high rate of reporting in this area (8021 structural reports were received in 1989). In some instances, there was very little reporting and codes were combined into other systems if the safety impact was not significant. The overall reduction in codes has been from 568 FAA codes to 488 JASC codes, with the significant increase being in the structural area as stated earlier.

The JASC code divides the engine section into two major code groups to separate the turbine and reciprocating engines. The codes for the turbine engines are in JASC Chapter 72, Turbine/Turboprop Engine. The codes for the reciprocating engines are now exclusively found in JASC Chapter 85, Reciprocating Engine.

The other major deviation from ATA Spec 100 is in ATA section 2730, specifically involves the stall warning system. Early technology (primarily on smaller aircraft) directly linked the sensing of flight attitude to one of the components which furnished the means of manually controlling the flight attitude characteristics (elevator). Today, most large transport category aircraft utilize electronic units to sense the change in the environmental condition called stall, and use the data to influence navigation. ATA section 3410, Flight Environment Data, includes high speed warning in its code definition. Stall warning (low speed) is the reciprocal term of high speed warning, so its filing under the same code appears more logical. Thus, with the JASC code it was decided to move the stall warning system to Chapter 34 under the separate code JASC code 3418, Stall Warning System.

The FAA is continuing to pursue worldwide involvement from operators and manufacturers in addressing the need for international standardization of aircraft system/component codes. The ultimate goal is to develop a universal aircraft/component numbering standard which can be used in the manufacturer's maintenance manual, wiring diagram manual, system manuals and illustrated parts catalog. This harmonized standard must be a usable standard for the aircraft manufacturers, air carrier operators and the general aviation community.

We welcome comments and feedback regarding the possible forming of working groups to achieve this long range consideration of possibly harmonizing the ATA Specification 100 code and the JASC code. Comments may be directed to the FAA, Aviation Data Sytem Branch, AFS-620, P.O. Box 25082, Oklahoma City, OK 73125.

# JOINT AIRCRAFT SYSTEM/COMPONENT CODE TABLE

## JASC/ TITLE

### 11 PLACARDS AND MARKINGS

1100 PLACARDS AND MARKINGS

### 12 SERVICING

1210 FUEL SERVICING  
1220 OIL SERVICING  
1230 HYDRAULIC FLUID SERVICING  
1240 COOLANT SERVICING

### 18 HELICOPTER VIBRATION

1800 HELICOPTER VIB/NOISE ANALYSIS  
1810 HELICOPTER VIBRATION ANALYSIS  
1820 HELICOPTER NOISE ANALYSIS

### 21 AIR CONDITIONING

2100 AIR CONDITIONING SYSTEM  
2110 CABIN COMPRESSOR SYSTEM  
2120 AIR DISTRIBUTION SYSTEM  
2121 AIR DISTRIBUTION FAN  
2130 CABIN PRESSURE CONTROL SYSTEM  
2131 CABIN PRESSURE CONTROLLER  
2132 CABIN PRESSURE INDICATOR  
2133 PRESSURE REGUL/OUTFLOW VALVE  
2134 CABIN PRESSURE SENSOR  
2140 HEATING SYSTEM  
2150 CABIN COOLING SYSTEM  
2160 CABIN TEMPERATURE CONTROL SYSTEM  
2161 CABIN TEMPERATURE CONTROLLER  
2162 CABIN TEMPERATURE INDICATOR  
2163 CABIN TEMPERATURE SENSOR  
2170 HUMIDITY CONTROL SYSTEM

### 22 AUTO FLIGHT

2200 AUTO FLIGHT SYSTEM  
2210 AUTOPILOT SYSTEM  
2211 AUTOPILOT COMPUTER  
2212 ALTITUDE CONTROLLER  
2213 FLIGHT CONTROLLER  
2214 AUTOPILOT TRIM INDICATOR  
2215 AUTOPILOT MAIN SERVO  
2216 AUTOPILOT TRIM SERVO  
2220 SPEED-ATTITUDE CORRECT. SYSTEM  
2230 AUTO THROTTLE SYSTEM  
2250 AERODYNAMIC LOAD ALLEVIATING

### 23 COMMUNICATIONS

2300 COMMUNICATIONS SYSTEM  
2310 HF COMMUNICATION SYSTEM  
2311 UHF COMMUNICATION SYSTEM  
2312 VHF COMMUNICATION SYSTEM  
2320 DATA TRANSMISSION AUTO CALL  
2330 ENTERTAINMENT SYSTEM  
2340 INTERPHONE & PA SYSTEM  
2350 AUDIO INTEGRATING SYSTEM  
2360 STATIC DISCHARGE SYSTEM  
2370 AUDIO/VIDEO MONITORING

### 24 ELECTRICAL POWER

2400 ELECTRICAL POWER SYSTEM  
2410 ALTERNATOR-GENERATOR DRIVE  
2420 AC GENERATION SYSTEM  
2421 AC GENERATOR-ALTERNATOR  
2422 AC INVERTER  
2423 PHASE ADAPTER

### 24 ELECTRICAL POWER CONT'D

2424 AC REGULATOR  
2425 AC INDICATING SYSTEM  
2430 DC GENERATING SYSTEM  
2431 BATTERY OVERHEAT WARN. SYSTEM  
2432 BATTERY/CHARGER SYSTEM  
2433 DC RECTIFIER-CONVERTER  
2434 DC GENERATOR-ALTERNATOR  
2435 STARTER-GENERATOR  
2436 DC REGULATOR  
2437 DC INDICATING SYSTEM  
2440 EXTERNAL POWER SYSTEM  
2450 AC POWER DISTRIBUTION SYSTEM  
2460 DC POWER/DISTRIBUTION SYSTEM

### 25 EQUIPMENT/FURNISHINGS

2500 CABIN EQUIPMENT/FURNISHINGS  
2510 FLIGHT COMPARTMENT EQUIPMENT  
2520 PASSENGER COMPARTMENT EQUIPMENT  
2530 BUFFET/GALLEYS  
2540 LAVATORIES  
2550 CARGO COMPARTMENTS  
2551 AGRICULTURAL SPRAY SYSTEM  
2560 EMERGENCY EQUIPMENT  
2561 LIFE JACKET  
2562 EMERGENCY LOCATOR BEACON  
2563 PARACHUTE  
2564 LIFE RAFT  
2565 ESCAPE SLIDE  
2570 ACCESSORY COMPARTMENT  
2571 BATTERY BOX STRUCTURE  
2572 ELECTRONIC SHELF SECTION

**26 FIRE PROTECTION**

2600 FIRE PROTECTION SYSTEM  
2610 DETECTION SYSTEM  
2611 SMOKE DETECTION  
2612 FIRE DETECTION  
2613 OVERHEAT DETECTION  
2620 EXTINGUISHING SYSTEM  
2621 FIRE BOTTLE, FIXED  
2622 FIRE BOTTLE, PORTABLE

**27 FLIGHT CONTROLS**

2700 FLIGHT CONTROL SYSTEM  
2701 CONTROL COLUMN SECTION  
2710 AILERON CONTROL SYSTEM  
2711 AILERON TAB CONTROL SYSTEM  
2720 RUDDER CONTROL SYSTEM  
2721 RUDDER TAB CONTROL SYSTEM  
2722 RUDDER ACTUATOR  
2730 ELEVATOR CONTROL SYSTEM  
2731 ELEVATOR TAB CONTROL SYSTEM  
2740 STABILIZER CONTROL SYSTEM  
2741 STABILIZER POSITION INDICATING  
2742 STABILIZER ACTUATOR  
2750 TE FLAP CONTROL SYSTEM  
2751 TE FLAP POSITION IND. SYSTEM  
2752 TE FLAP ACTUATOR  
2760 DRAG CONTROL SYSTEM  
2761 DRAG CONTROL ACTUATOR  
2770 GUST LOCK/DAMPER SYSTEM  
2780 LE FLAP CONTROL SYSTEM  
2781 LE FLAP POSITION IND. SYSTEM  
2782 LE FLAP ACTUATOR

**28 FUEL**

2800 AIRCRAFT FUEL SYSTEM  
2810 FUEL STORAGE  
2820 ACFT FUEL DISTRIB. SYSTEM  
2821 ACFT FUEL FILTER/STRAINER  
2822 FUEL BOOST PUMP  
2823 FUEL SELECTOR/SHUTOFF VALVE  
2824 FUEL TRANSFER VALVE  
2830 FUEL DUMP SYSTEM  
2840 ACFT FUEL INDICATING  
2841 FUEL QUANTITY INDICATOR  
2842 FUEL QUANTITY SENSOR  
2843 FUEL TEMPERATURE INDICATING  
2844 FUEL PRESSURE INDICATOR

**29 HYDRAULIC POWER**

2900 HYDRAULIC POWER SYSTEM  
2910 HYDRAULIC, MAIN SYSTEM  
2911 HYDRAULIC POWER-ACCUMULATOR-MAIN  
2912 HYDRAULIC FILTER-MAIN SYSTEM  
2913 HYDRAULIC PUMP. ELECT-ENG.-MAIN  
2914 HYDRAULIC HANDPUMP-MAIN  
2915 HYDRAULIC PRESSURE RELIEF VLV-MAIN  
2916 HYDRAULIC RESERVOIR-MAIN  
2917 HYDRAULIC PRESSURE REGULATOR-MAIN  
2920 HYDRAULIC, AUXILIARY SYSTEM  
2921 HYDRAULIC ACCUMULATOR-AUXILIARY  
2922 HYDRAULIC FILTER-AUXILIARY  
2923 HYDRAULIC PUMP-AUXILIARY  
2925 HYDRAULIC PRESSURE RELIEF-AUXILIARY  
2926 HYDRAULIC RESERVOIR-AUXILIARY  
2927 HYDRAULIC PRESSURE REGULATOR-AUX.  
2930 HYDRAULIC SYSTEM INDICATING  
2931 HYDRAULIC PRESSURE INDICATOR  
2932 HYDRAULIC PRESSURE SENSOR  
2933 HYDRAULIC QUANTITY INDICATOR  
2934 HYDRAULIC QUANTITY SENSOR

**30 ICE AND RAIN PROTECTION**

3000 ICE/RAIN PROTECTION SYSTEM  
3010 AIRFOIL ANTI/DE-ICE SYSTEM  
3020 AIR INTAKE ANTI/DE-ICE SYSTEM  
3030 PITOT/STATIC ANTI-ICE SYSTEM  
3040 WINDSHIELD/DOOR RAIN/ICE REMOVAL  
3050 ANTENNA/RADOME ANTI-ICE/DE-ICE SYSTEM  
3060 PROP/ROTOR ANTI-ICE/DE-ICE SYSTEM  
3070 WATER LINE ANTI-ICE SYSTEM  
3080 ICE DETECTION

**31 INSTRUMENTS**

3100 INDICATING/RECORDING SYSTEM  
3110 INSTRUMENT PANEL  
3120 INDEPENDENT INSTRUMENTS (CLOCK, ETC.)  
3130 DATA RECORDERS (FLT/MAINT)  
3140 CENTRAL COMPUTERS (EICAS)  
3150 CENTRAL WARNING  
3160 CENTRAL DISPLAY  
3170 AUTOMATIC DATA

**32 LANDING GEAR**

3200 LANDING GEAR SYSTEM  
3201 LANDING GEAR/WHEEL FAIRING  
3210 MAIN LANDING GEAR  
3211 MAIN LANDING GEAR ATTACH SECTION  
3212 EMERGENCY FLOTATION SECTION  
3213 MAIN LANDING GEAR STRUT/AXLE/TRUCK  
3220 NOSE/TAIL LANDING GEAR  
3221 NOSE/TAIL LANDING GEAR ATTACH SECTION  
3222 NOSE/TAIL LANDING GEAR STRUT/AXLE  
3230 LANDING GEAR RETRACT/EXT. SYSTEM  
3231 LANDING GEAR DOOR RETRACT SECTION  
3232 LANDING GEAR DOOR ACTUATOR  
3233 LANDING GEAR ACTUATOR  
3234 LANDING GEAR SELECTOR  
3240 LANDING GEAR BRAKE SYSTEM  
3241 BRAKE ANTI-SKID SECTION  
3242 BRAKE  
3243 MASTER CYL/BRAKE VALVE  
3244 TIRE  
3245 TIRE TUBE  
3246 WHEEL/SKI/FLOAT  
3250 LANDING GEAR STEERING SYSTEM  
3251 STEERING UNIT  
3252 SHIMMY DAMPER  
3260 LANDING GEAR POSITION & WARNING  
3270 AUXILIARY GEAR (TAIL SKID)

**33 LIGHTS**

3300 LIGHTING SYSTEM  
3310 FLIGHT COMPARTMENT LIGHTING  
3320 PASSENGER COMPARTMENT LIGHTING  
3330 CARGO COMPARTMENT LIGHTING  
3340 EXTERIOR LIGHTING  
3350 EMERGENCY LIGHTING

**34 NAVIGATION**

3400 NAVIGATION SYSTEM  
3410 FLIGHT ENVIRONMENT DATA  
3411 PITOT/STATIC SYSTEM  
3412 OUTSIDE AIR TEMP. IND./SENSOR  
3413 RATE OF CLIMB INDICATOR  
3414 AIRSPEED/MACH INDICATING  
3415 HIGH SPEED WARNING  
3416 ALTIMETER, BAROMETRIC/ENCODER

### **34 NAVIGATION CONT'D**

3417 AIR DATA COMPUTER  
3418 STALL WARNING SYSTEM  
3420 ATTITUDE AND DIRECTION DATA SYSTEM  
3421 ATTITUDE GYRO & IND. SYSTEM  
3422 DIRECTIONAL GYRO & IND. SYSTEM  
3423 MAGNETIC COMPASS  
3424 TURN & BANK/RATE OF TURN INDICATOR  
3425 INTEGRATED FLT. DIRECTOR SYSTEM  
3430 LANDING & TAXI AIDS  
3431 LOCALIZER/VOR SYSTEM  
3432 GLIDE SLOPE SYSTEM  
3433 MICROWAVE LANDING SYSTEM  
3434 MARKER BEACON SYSTEM  
3435 HEADS UP DISPLAY SYSTEM  
3436 WIND SHEAR DETECTION SYSTEM  
3440 INDEPENDENT POS. DETERMINING SYSTEM  
3441 INERTIAL GUIDANCE SYSTEM  
3442 WEATHER RADAR SYSTEM  
3443 DOPPLER SYSTEM  
3444 GROUND PROXIMITY SYSTEM  
3445 AIR COLLISION AVOIDANCE SYSTEM (TCAS)  
3446 NON RADAR WEATHER SYSTEM  
3450 DEPENDENT POSITION DETERMINING SYSTEM  
3451 DME/TACAN SYSTEM  
3452 ATC TRANSPONDER SYSTEM  
3453 LORAN SYSTEM  
3454 VOR SYSTEM  
3455 ADF SYSTEM  
3456 OMEGA NAVIGATION SYSTEM  
3457 GLOBAL POSITIONING SYSTEM  
3460 FLIGHT MANAGE. COMPUTING SYSTEM

### **35 OXYGEN**

3500 OXYGEN SYSTEM  
3510 CREW OXYGEN SYSTEM  
3520 PASSENGER OXYGEN SYSTEM  
3530 PORTABLE OXYGEN SYSTEM

### **36 PNEUMATIC**

3600 PNEUMATIC SYSTEM  
3610 PNEUMATIC DISTRIBUTION SYSTEM  
3620 PNEUMATIC INDICATING SYSTEM

### **37 VACUUM**

3700 VACUUM SYSTEM  
3710 VACUUM DISTRIBUTION SYSTEM  
3720 VACUUM INDICATING SYSTEM

### **38 WATER/WASTE**

3800 WATER & WASTE SYSTEM  
3810 POTABLE WATER SYSTEM  
3820 WASH WATER SYSTEM  
3830 WASTE DISPOSAL SYSTEM  
3840 AIR SUPPLY (WATER PRESS. SYSTEM)

### **45 CENTRAL MAINT. SYSTEM**

4500 CENTRAL MAINT. COMPUTER

### **49 AIRBORNE AUXILIARY POWER**

4900 AIRBORNE APU SYSTEM  
4910 APU COWLING/CONTAINMENT  
4920 APU CORE ENGINE  
4930 APU ENGINE FUEL & CONTROL  
4940 APU START/IGNITION SYSTEM  
4950 APU BLEED AIR SYSTEM  
4960 APU CONTROLS  
4970 APU INDICATING SYSTEM  
4980 APU EXHAUST SYSTEM  
4990 APU OIL SYSTEM

### **51 STANDARD PRACTICES/STRUCTURES**

5100 STANDARD PRACTICES/STRUCTURES  
5101 AIRCRAFT STRUCTURES  
5102 BALLOON REPORTS

### **52 DOORS**

5200 DOORS  
5210 PASSENGER/CREW DOORS  
5220 EMERGENCY EXIT  
5230 CARGO/BAGGAGE DOORS  
5240 SERVICE DOORS  
5241 GALLEY DOORS  
5242 E/E COMPARTMENT DOORS  
5243 HYDRAULIC COMPARTMENT DOORS  
5244 ACCESSORY COMPARTMENT DOORS  
5245 AIR CONDITIONING COMPART. DOORS  
5246 FLUID SERVICE DOORS

5247 APU DOORS  
5248 TAIL CONE DOORS  
5250 FIXED INNER DOORS  
5260 ENTRANCE STAIRS  
5270 DOOR WARNING SYSTEM  
5280 LANDING GEAR DOORS

### **53 FUSELAGE**

5300 FUSELAGE STRUCTURE (GENERAL)  
5301 AERIAL TOW EQUIPMENT  
5302 ROTORCRAFT TAIL BOOM  
5310 FUSELAGE MAIN STRUCTURE  
5311 FUSELAGE MAIN FRAME  
5312 FUSELAGE MAIN BULKHEAD  
5313 FUSELAGE MAIN LONGERON/STRINGER  
5314 FUSELAGE MAIN KEEL  
5315 FUSELAGE MAIN FLOOR BEAM  
5320 FUSELAGE MISCELLANEOUS STRUCTURE  
5321 FUSELAGE FLOOR PANEL  
5322 FUSELAGE INTERNAL MOUNT STRUCTURE  
5323 FUSELAGE INTERNAL STAIRS  
5324 FUSELAGE FIXED PARTITIONS  
5330 FUSELAGE MAIN PLATE/SKIN  
5340 FUSELAGE MAIN ATTACH FITTINGS  
5341 WING ATTACH FITTINGS (ON FUSELAGE)  
5342 STABILIZER ATTACH FITTINGS  
5343 LANDING GEAR ATTACH FITTINGS  
5344 FUSELAGE DOOR HINGES  
5345 FUSELAGE EQUIPMENT ATTACH FITTINGS  
5346 POWERPLANT ATTACH FITTINGS  
5347 SEAT/CARGO ATTACH FITTINGS  
5350 FUSELAGE AERODYNAMIC FAIRINGS

### **54 NACELLES/PYLONS**

5400 NACELLE/PYLON STRUCTURE  
5410 MAIN FRAME (ON NACELLE/PYLON)  
5411 FRAME/SPAR/RIB(NACELLE/PYLON)  
5412 BULKHEAD/FIREWALL (NAC/PYLON)  
5413 LONGERON/STRINGER (NAC/PYLON)  
5414 PLATE SKIN (NAC/PYLONS)  
5415 ATTACH FITTINGS (NAC/PYLON)

### **55 STABILIZERS**

5500 EMPENNAGE STRUCTURE  
5510 HORIZONTAL STABILIZER STRUCTURE  
5511 HORIZONTAL STABILIZER SPAR/RIB  
5512 HORIZONTAL STABILIZER PLATE/SKIN  
5513 HORIZONTAL STABILIZER TAB STRUCTURE  
5520 ELEVATOR STRUCTURE

**55 STABILIZERS CONT'D**

5521 ELEVATOR SPAR/RIB STRUCTURE  
5522 ELEVATOR PLATES/SKIN STRUCTURE  
5523 ELEVATOR TAB STRUCTURE  
5530 VERTICAL STABILIZER STRUCTURE  
5531 VERTICAL STABILIZER SPAR/RIB STRUCTURE  
5532 VERTICAL STABILIZER PLATES/SKIN  
5533 VENTRAL STRUCTURE (ON VERT. STAB)  
5540 RUDDER STRUCTURE  
5541 RUDDER SPAR/RIB STRUCTURE  
5542 RUDDER PLATE/SKIN STRUCTURE  
5543 RUDDER TAB STRUCTURE  
5550 EMPENNAGE FLT. CONT. ATTACH FITTING  
5551 HORIZONTAL STABILIZER ATTACH FITTING  
5552 ELEVATOR/TAB ATTACH FITTINGS  
5553 VERT. STAB. ATTACH FITTINGS  
5554 RUDDER/TAB ATTACH FITTINGS

**56 WINDOWS**

5600 WINDOW/WINDSHIELD SYSTEM  
5610 FLIGHT COMPARTMENT WINDOWS  
5620 PASSENGER COMPARTMENT WINDOWS  
5630 DOOR WINDOWS  
5640 INSPECTION WINDOWS

**57 WINGS**

5700 WING STRUCTURE  
5710 WING MAIN FRAME STRUCTURE  
5711 WING SPAR STRUCTURE  
5712 WING RIB STRUCTURE  
5713 WING LONGERON/STRINGER  
5714 WING CENTER BOX  
5720 WING MISCELLANEOUS STRUCTURE  
5730 WING PLATES/SKINS  
5740 WING ATTACH FITTINGS  
5741 WING, FUSELAGE ATTACH FITTINGS  
5742 WING, NAC/PYLON ATTACH FITTINGS  
5743 WING, LANDING GEAR ATTACH FITTINGS  
5744 CONTROL SURFACE ATTACH FITTINGS  
5750 WING CONTROL SURFACE STRUCTURE  
5751 AILERON STRUCTURE  
5752 AILERON TAB STRUCTURE  
5753 TE FLAP STRUCTURE  
5754 LEADING EDGE DEVICE STRUCTURE  
5755 SPOILER STRUCTURE

**61 PROPELLERS/PROPULSORS**

6100 PROPELLER SYSTEM  
6110 PROPELLER ASSEMBLY  
6111 PROPELLER BLADE SECTION  
6112 PROPELLER DE-ICE BOOT SECTION  
6113 PROPELLER SPINNER SECTION  
6114 PROPELLER HUB SECTION  
6120 PROPELLER CONTROL SYSTEM  
6121 PROPELLER SYNCHRONIZER SECTION  
6122 PROPELLER GOVERNOR  
6123 PROPELLER FEATHERING/REVERSING  
6130 PROPELLER BRAKING  
6140 PROPELLER INDICATING SYSTEM

**62 MAIN ROTOR**

6200 MAIN ROTOR SYSTEM  
6210 MAIN ROTOR BLADES  
6220 MAIN ROTOR HEAD  
6230 MAIN ROTOR MAST/SWASHPLATE  
6240 MAIN ROTOR INDICATING SYSTEM

**63 MAIN ROTOR DRIVE**

6300 MAIN ROTOR DRIVE SYSTEM  
6310 ENGINE/TRANSMISSION COUPLING  
6320 MAIN ROTOR GEARBOX  
6321 MAIN ROTOR BRAKE  
6322 ROTORCRAFT COOLING FAN SYSTEM  
6330 MAIN ROTOR TRANSMISSION MOUNT  
6340 ROTOR DRIVE INDICATING SYSTEM

**64 TAIL ROTOR**

6400 TAIL ROTOR SYSTEM  
6410 TAIL ROTOR BLADE  
6420 TAIL ROTOR HEAD  
6440 TAIL ROTOR INDICATING SYSTEM

**65 TAIL ROTOR DRIVE**

6500 TAIL ROTOR DRIVE SYSTEM  
6510 TAIL ROTOR DRIVE SHAFT  
6520 TAIL ROTOR GEARBOX  
6540 TAIL ROTOR DRIVE INDICATING SYSTEM

**67 ROTORS FLIGHT CONTROL**

6700 ROTORCRAFT FLIGHT CONTROL  
6710 MAIN ROTOR CONTROL  
6711 TILT ROTOR FLIGHT CONTROL  
6720 TAIL ROTOR CONTROL SYSTEM  
6730 ROTORCRAFT SERVO SYSTEM

**71 POWERPLANT**

7100 POWERPLANT SYSTEM  
7110 ENGINE COWLING SYSTEM  
7111 COWL FLAP SYSTEM  
7112 ENGINE AIR BAFFLE SECTION  
7120 ENGINE MOUNT SECTION  
7130 ENGINE FIRESEALS  
7160 ENGINE AIR INTAKE SYSTEM  
7170 ENGINE DRAINS

**72 TURBINE/TURBOPROP ENGINE**

7200 ENGINE (TURBINE/TURBOPROP)  
7210 TURBINE ENGINE REDUCTION GEAR  
7220 TURBINE ENGINE AIR INLET SECTION  
7230 TURBINE ENGINE COMPRESSOR SECTION  
7240 TURBINE ENGINE COMBUSTION SECTION  
7250 TURBINE SECTION  
7260 TURBINE ENGINE ACCESSORY DRIVE  
7261 TURBINE ENGINE OIL SYSTEM  
7270 TURBINE ENGINE BYPASS SECTION

**73 ENGINE FUEL & CONTROL**

7300 ENGINE FUEL & CONTROL  
7310 ENGINE FUEL DISTRIBUTION  
7311 ENGINE FUEL-OIL COOLER  
7312 FUEL HEATER  
7313 FUEL INJECTOR NOZZLE  
7314 ENGINE FUEL PUMP  
7320 FUEL CONTROLLING SYSTEM  
7321 FUEL CONTROL/ELECTRONIC  
7322 FUEL CONTROL/CARBURETOR  
7323 TURBINE GOVERNOR  
7324 FUEL DIVIDER  
7330 ENGINE FUEL INDICATING SYSTEM  
7331 FUEL FLOW INDICATING  
7332 FUEL PRESSURE INDICATING  
7333 FUEL FLOW SENSOR  
7334 FUEL PRESSURE SENSOR

#### **74 IGNITION**

7400 IGNITION SYSTEM  
7410 IGNITION POWER SUPPLY  
7411 LOW TENSION COIL  
7412 EXCITER  
7413 INDUCTION VIBRATOR  
7414 MAGNETO/DISTRIBUTOR  
7420 IGNITION HARNESS (DISTRIBUTION)  
7421 SPARK PLUG/IGNITER  
7430 IGNITION SWITCHING

#### **75 AIR**

7500 ENGINE BLEED AIR SYSTEM  
7510 ENGINE ANTI-ICING SYSTEM  
7520 ENGINE COOLING SYSTEM  
7530 COMPRESSOR BLEED CONTROL  
7531 COMPRESSOR BLEED GOVERNOR  
7532 COMPRESSOR BLEED VALVE  
7540 BLEED AIR INDICATING SYSTEM

#### **76 ENGINE CONTROLS**

7600 ENGINE CONTROLS  
7601 ENGINE SYNCHRONIZING  
7602 MIXTURE CONTROL  
7603 POWER LEVER  
7620 ENGINE EMERGENCY SHUTDOWN SYSTEM

#### **77 ENGINE INDICATING**

7700 ENGINE INDICATING SYSTEM  
7710 POWER INDICATING SYSTEM  
7711 ENGINE PRESSURE RATIO (EPR)  
7712 ENGINE BMEP/TORQUE INDICATING  
7713 MANIFOLD PRESSURE (MP) INDICATING  
7714 ENGINE RPM INDICATING SYSTEM  
7720 ENGINE TEMP. INDICATING SYSTEM  
7721 CYLINDER HEAD TEMP (CHT) INDICATING  
7722 ENG. EGT/TIT INDICATING SYSTEM  
7730 ENGINE IGNITION ANALYZER SYSTEM  
7731 ENGINE IGNITION ANALYZER  
7732 ENGINE VIBRATION ANALYZER  
7740 ENGINE INTEGRATED INSTRUMENT SYSTEM

#### **78 ENGINE EXHAUST**

7800 ENGINE EXHAUST SYSTEM  
7810 ENGINE COLLECTOR/TAILOPIPE/NOZZLE  
7820 ENGINE NOISE SUPPRESSOR  
7830 THRUST REVERSER

#### **79 ENGINE OIL**

7900 ENGINE OIL SYSTEM (AIRFRAME)  
7910 ENGINE OIL STORAGE (AIRFRAME)  
7920 ENGINE OIL DISTRIBUTION (AIRFRAME)  
7921 ENGINE OIL COOLER  
7922 ENGINE OIL TEMP. REGULATOR  
7923 OIL SHUTOFF VALVE  
7930 ENGINE OIL INDICATING SYSTEM  
7931 ENGINE OIL PRESSURE  
7932 ENGINE OIL QUANTITY  
7933 ENGINE OIL TEMPERATURE

#### **80 STARTING**

8000 ENGINE STARTING SYSTEM  
8010 ENGINE CRANKING  
8011 ENGINE STARTER  
8012 ENGINE START VALVES/CONTROLS

#### **81 TURBOCHARGING**

8100 EXHAUST TURBINE SYSTEM (RECIP)  
8110 POWER RECOVERY TURBINE (RECIP)  
8120 EXHAUST TURBOCHARGER

#### **82 WATER INJECTION**

8200 WATER INJECTION SYSTEM

#### **83 ACCESSORY GEARBOXES**

8300 ACCESSORY GEARBOXES

#### **85 RECIPROCATING ENGINE**

8500 ENGINE (RECIPROCATING)  
8510 RECIPROCATING ENGINE FRONT SECTION  
8520 RECIPROCATING ENGINE POWER SECTION

8530 RECIPROCATING ENGINE CYLINDER SECTION  
8540 RECIPROCATING ENGINE REAR SECTION  
8550 RECIPROCATING ENGINE OIL SYSTEM

## ***MECHANICS CREED***

UPON MY HONOR I swear that I shall hold in sacred trust the rights and privileges conferred upon me as a certified mechanic. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I shall never knowingly subject others to risks which I would not be willing to assume for myself, or for those dear to me.

IN DISCHARGING this trust, I pledge myself never to undertake work or approve work which I feel to be beyond the limits of my knowledge; nor shall I allow any non-certificated superior to persuade me to approve aircraft or equipment as airworthy against my better judgment; nor shall I permit my judgment to be influenced by money or other personal gain; nor shall I pass as airworthy aircraft or equipment about which I am in doubt, either as a result of direct inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.

I REALIZE the grave responsibility which is mine as a certified airman, to exercise my judgment on the airworthiness of aircraft and equipment. I, therefore, pledge unyielding adherence to these precepts for the advancement of aviation and for the dignity of my vocation.